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Florida Bats

People of the Crane

Top 10 Catfish Holes

The Brazen Bruin

eastern pipistrelle by Bruce Brewer

Bat Time

By Doug Alderson

Last spring I volunteered as a chaperone for my daughter's high school intensive field trip to a wild cave along the Florida/Georgia border. Cheyenne had never before been spelunking and, like a good father, I wanted to watch out for her. I should have known better.

Cheyenne was about half of my waist size, and she wiggled through the narrow passageways and "squeezes" like a nimble earthworm; I often had to squirm and grunt my way through, experiencing rare sensations of claustrophobia. Nine hours later, we returned to the steep, mossy-covered opening to the above-ground world. The sun had already set, and it was bat time.

Hundreds, perhaps thousands of southeastern and pipistrelle bats were congregating near the entrance for a coordinated exit from the cave. They were emerging from several deep cracks in the rock and swarming all around us. Some of the students were a bit alarmed at first, and I had to keep my mind from dwelling on scenes from old horror movies. "Don't worry, they won't bite you," said one of the trip leaders, an experienced caver. "Just move real slow."

I could feel the wind from their leathery wings. The combined sounds of their flying reminded me of the soft thudding of rain on a roof. Occasionally, a wing tip would brush me, but I was amazed at how the bats could navigate around several human forms in a small passageway using echolocation. They used high-pitched peeping sounds to communicate with each other.

Two or three times a bat landed on my back or legs, and then quickly flew off. What did they think of us? I wondered, these strange visitors to their underground world. While bats are not always benign creatures in regard to humans – they can carry rabies and their guano in some caves can lead to respiratory problems – we had no problems, although we did not seek direct contact.

Soon after we exited the cave, so did the bats – to feast on mosquitoes mostly. I wished them well. I had a new reason to worry about all the poisons that we spray on the insect world. Bats are one of those natural agents that help to keep the balance, and they've been performing their duties for eons.

Keep flying, and be safe.

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2003
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FWC Home Page on the World Wide Web:
www.floridaconservation.org

Editorial Office:
620 South Meridian Street, Tallahassee, FL 32399-1600
Phone (850) 488-5563 • FAX (850) 488-8974
Web: **www.floridawildlifemagazine.com**

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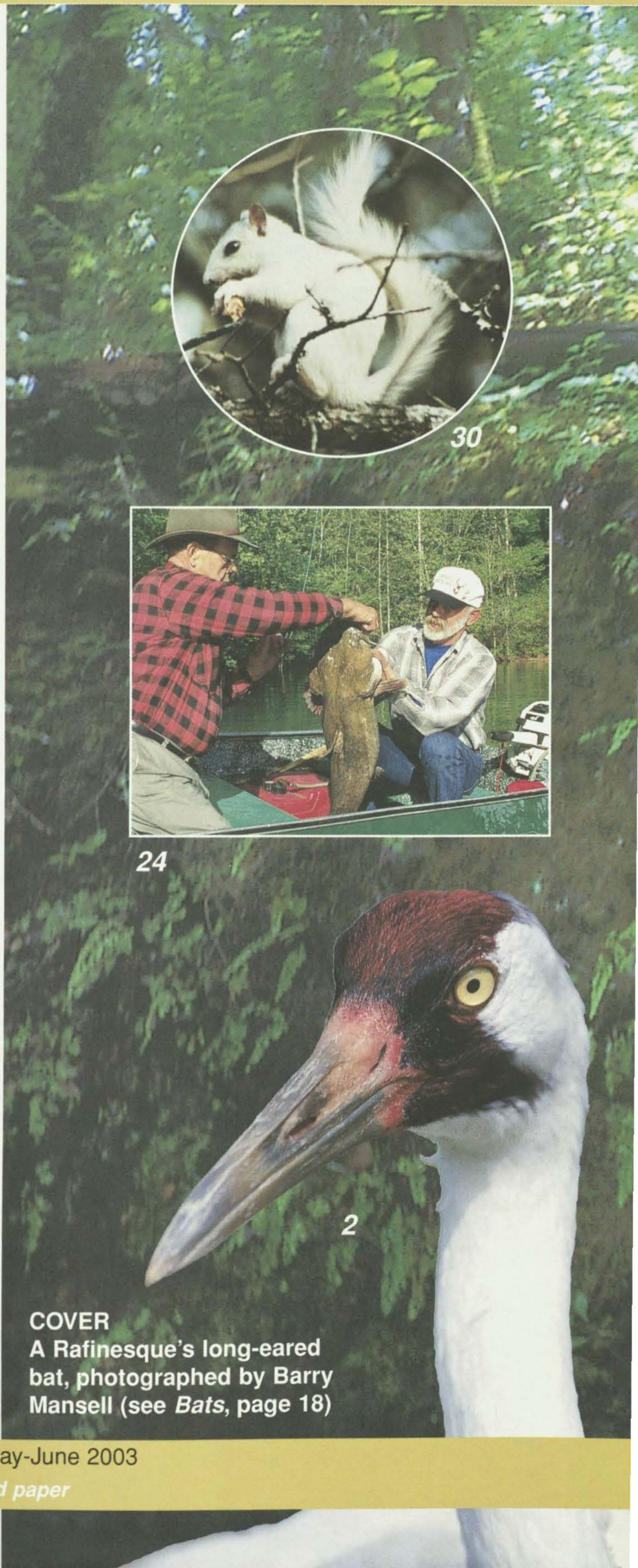

COVER
A Rafinesque's long-eared bat, photographed by Barry Mansell (see *Bats*, page 18)

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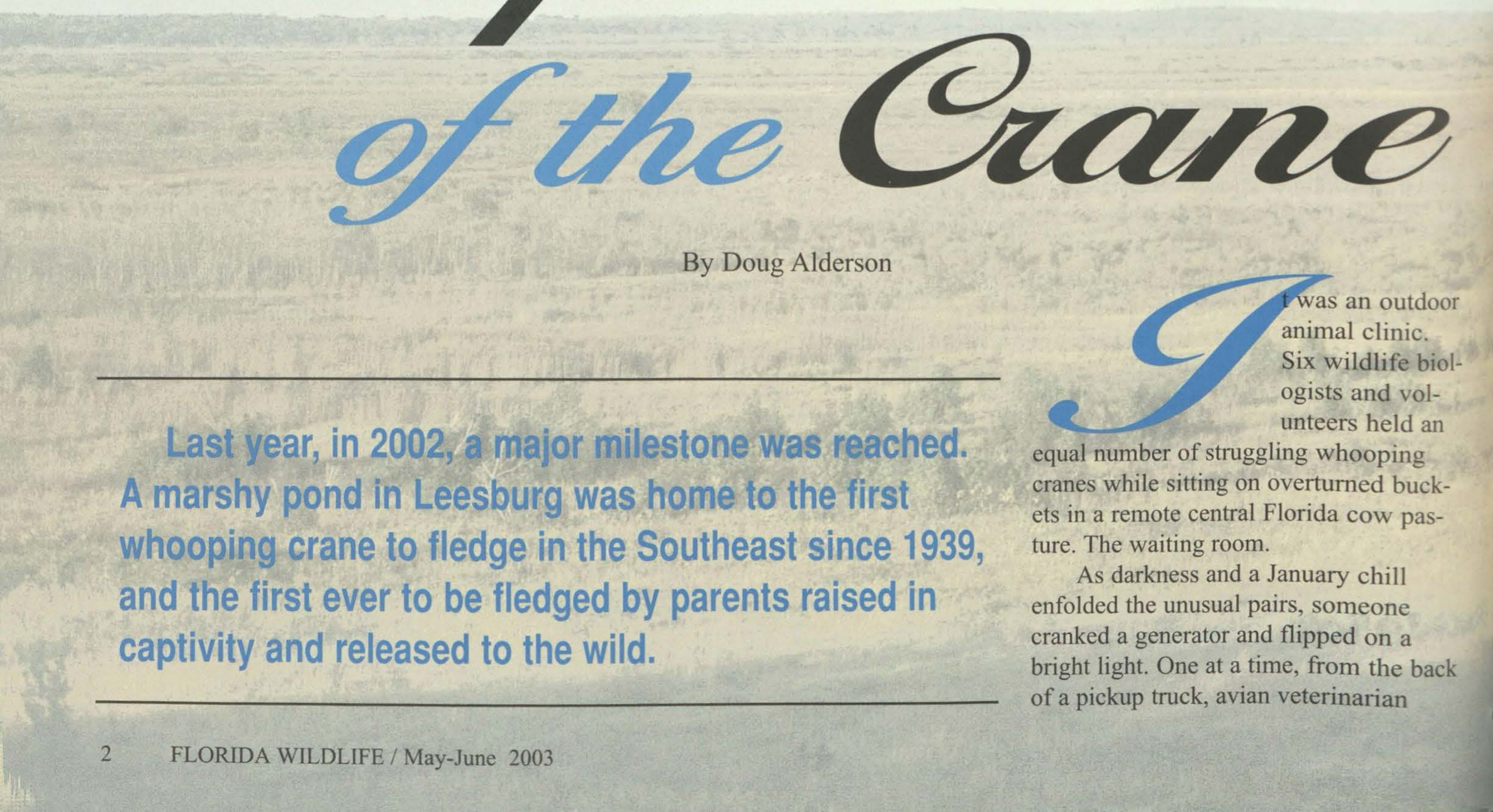
Lucky tests his wings, by Steve Nesbitt

People of the Crane

By Doug Alderson



Last year, in 2002, a major milestone was reached. A marshy pond in Leesburg was home to the first whooping crane to fledge in the Southeast since 1939, and the first ever to be fledged by parents raised in captivity and released to the wild.

It was an outdoor animal clinic. Six wildlife biologists and volunteers held an equal number of struggling whooping cranes while sitting on overturned buckets in a remote central Florida cow pasture. The waiting room.

As darkness and a January chill enfolded the unusual pairs, someone cranked a generator and flipped on a bright light. One at a time, from the back of a pickup truck, avian veterinarian

Marilyn Spalding began a thorough checkup of each young "whooper." She and her assistants weighed the birds, took fluid and fecal samples, and checked beaks, wings and feet. All the while, cows bellowed and the whoopers' cousins, sandhill cranes, flew in by the dozens to roost in a marshy pond. The sandhills' warbling calls echoed across water and grasslands, music from a species that spans nine million years – the oldest known living bird species. Music for the people of the crane.

For the six gangly whooping cranes, participants in a bold effort to establish a viable non-migratory flock in the Florida wilds, their reward after being subjected to this battery of medical tests was freedom. Plastic wing restraints or brails were removed, and so when the white and golden-brown flecked birds with black wing tips were returned to their open-air pen that night, nothing prevented them from flying out. In the weeks and months to follow, they would gradually expand their range, strengthening their flight muscles, and likely join other juvenile whoopers in the wild. Ever wary of bobcats, alligators and coyotes, they would feed on insects, worms, frogs, snakes, crayfish, acorns, tubers, seeds, and an occasional young bird or small mammal. The maturing whoopers would eventually pair up and, hopefully, raise young, doing their part to perpetuate the world's rarest crane species. Only 415 whooping cranes exist today.

Steve Nesbitt, biologist with the Florida Fish and Wildlife Conservation Commission (FWC) since 1971, has been with the project since its inception. "What we're basing this on is the non-migrating sandhill population," he said. "Whooper and sandhill behavior is very similar. With the sandhills, we found there is an instinctual foundation for migration. But if it is not expressed, either by migrating with their parents or with other birds, or in the case of the ultra light aircraft project, being led in a mechanical way, it goes away. It's a combination of instinct and learning. Without the learning, it doesn't manifest itself."

According to Nesbitt, it is not known if there were non-migratory whoopers in Florida; they were only documented in Louisiana. Migratory flocks, however, historically wintered in the Sunshine State in large numbers until wanton killing and the drainage of their wetland nesting habitats in northern states sent the population into decline. The species as a whole nearly became extinct, dropping to only 22 individuals in the winter of 1941-1942. Six of those birds had been part of a non-migratory flock in Louisiana. They soon died out. The other 16 whoopers, which wintered in Texas, were spending their summers in northern Alberta, far above the area where farming was feasible.

"Our rationale was that if non-migratory whoopers and sandhills got along in Louisiana, they should get along in Florida," said Nesbitt. "Their habitat has always been here in Florida." Ideal whooping crane habitat is open grassland that is pocked with numerous small ponds and marshes, resource-rich land that is currently abundant in central Florida on private ranches and public wildlife management areas and state parks. The cooperation of public and private landowners and the many partners in the reintroduction project – the FWC, the U.S. Fish and Wildlife Service, the U.S. Geological Survey, the Canadian Wildlife Service, the International Crane Foundation, the Calgary Zoo and the San Antonio Zoo – was essential.

For Nesbitt, studying whooping cranes and other birds is in his blood. His grandfather, Ira Gabrielson, was a professional ornithologist and director of the United States Biological Survey/Fish and Wildlife Service from 1935 to 1946. He helped create the Aransas National Wildlife Refuge in Texas, the last wintering grounds for whoopers at that time. He also helped to establish the Patuxent Wildlife Research Center in Maryland, currently the largest of three breeding centers for whooping cranes.

Gabrielson passed away before the reintroduction project was realized, but he likely would have found great satisfaction in seeing wild whoopers again in Florida, and in seeing his grandson as the project director. He also would have approved of the cooperative effort between so many government agencies, non-profit organizations, volunteers, private landowners and two countries – the United States and Canada. "No one, no agency, no single unit of government can protect and improve the environment," Gabrielson said in 1968 as president of the Wildlife Management Institute. "It requires the diligent attention of every segment of society."

Nesbitt grew up in Virginia just outside of Washington, D.C. He spent time in New York City and went to school in Texas and Oklahoma. During summer travels to wildlife refuges around the country, he was struck by the variety of land and water birds in Florida. "There's no place else that can match it," he said. He enjoyed studying birds because "they do everything right in front of you. If you just watch and pay attention, they'll show you everything."

Early on, Nesbitt realized that whoopers would fit right in with the Florida habitats he loved best – open grasslands and wetlands. In 1993, years of planning and fieldwork paid off. A group of young whoopers arrived from breeding facilities in Wisconsin and Maryland and were soon released. For the first time in decades, the trumpeting kerloo! ker-lee-oo! of whooping cranes echoed across Florida landscapes.

Nesbitt, who recently received one of the ▷

N.C. Bateman

few Lifetime Achievement awards handed out by the North American Crane Working Group, knew from the start that the project's goal of 25 nesting pairs would take years or decades to achieve. "On average, they don't usually succeed in reproducing until they're about 8 years old," he said. "They make initial efforts that often don't produce anything. We're just now getting a large enough and old enough number of birds to be able to start forming good solid pair bonds that should begin showing some reproductive success."

In 2002, a major milestone was reached. A marshy pond in Leesburg was home to the first whooping crane to fledge in the Southeast since 1939, and the first ever to be fledged by parents raised in captivity and released to the wild. He was named "Lucky" because his sibling was eaten by a bald eagle, but Lucky's parents were able to thwart the eagle's attempt to take Lucky. Two months later, a pair of eagles swooped down near the nest, but Lucky's parents injured one eagle so badly that it was taken to a rehabilitation center, where it remained for two weeks. At nearly five feet tall, adult whooping cranes are the tallest birds in North America; they are tough customers when riled.

"It was just unreal to have something that rare come to your back yard and nest and fledge young. It was quite an experience..."

Steve Nesbitt

Jeanette Porter holds Lucky and biologist Marty Folk cools him off as he waits to be banded and checked by a vet.

Now fully grown, Lucky is currently on his own, having been pushed out of the natal territory by his parents as they prepared for a new set of eggs. With a lot of luck, Lucky will live 25 to 30 years and sire many offspring.

Gene and Tina Tindell happened to live along the marsh where Lucky was born. If ever there was a whooping crane lottery, the Tindells seemed to have won it. They witnessed Lucky's conception, hatching and first flight, often while sitting on their screened porch. "They've witnessed more in the life of a whooper family than anyone else on earth," said FWC crane biologist Marty Folk. After the birth, the Tindell's home became "whooping crane central" for a steady troop of biologists, journalists and bird lovers, more than 700 in all. Folk is said to have lived on their rooftop for a month as he filmed Lucky's upbringing.

"We took down photos of our own grandkids and put up photos of Lucky," jokes Gene Tindell, a soft-spoken retired corrections worker who chased dogs away from the cranes on more than one occasion. "When the grandkids come to visit, we have to take down the Lucky photos and put the grandkids' photos back up.

"It was just unreal to have something that rare come to your back yard and nest and fledge young. It was quite an experience. We've also met a lot of nice people that otherwise we wouldn't have met."

Another volunteer who became hooked on whooping cranes is Judith Buhrman of the Florida Marine Research Institute. She has helped with the largely inland project for more than eight years, often showing up to hold struggling cranes in remote cow pastures as part of what she calls "avian MASH units."

"Every time something goes extinct because we've sent it before its time, it's like a library gets burned," she said. "That's why I keep coming back, not to mention that these birds are incredible. They're beautiful, they make wonderful music, they are charismatic, and because they are charismatic, they've been the emblem of conservation in this country since 1941. And then there are the people who are involved with this – they are extraordinary. No big egos, no prima donnas, everyone's efforts are focused on the objective: to snatch these creatures out of extinction's way. It's amazing."

Buhrman wrote a 1998 article for *Birdwatcher's Digest* in which she describes the encouraging level of cooperation from numerous private ranchers. "The landowners consider the whoopers 'their' birds, and to see these weathered, fourth- and fifth-generation Floridians deep in earnest conversation with two apple-cheeked young biologists over barbecue is to feel a rush of pure hope."

It is in that same spirit of cooperation that the migratory whooping crane reintroduction project began. William Lishman, founder of the Canadian non-profit group Operation Migration, first experimented with young Canadian geese to see if they would follow an ultralight aircraft on migrational routes. His success was popularized in the movie, *Fly Away Home*, which was based on Lishman's book *Father Goose*.

In 2000, Operation Migration suc- ▷

Steve Nesbitt

A male whooping crane, calling.

Steve Nesbitt

Lucky, in juvenile plummage.

cessfully led 11 captive-raised sandhill cranes from Wisconsin to Citrus County. The following fall, seven young whooping cranes began following two ultralight planes – the pilots dressed in adult whooping crane costumes – from the Necedah National Wildlife Refuge in Wisconsin to the Chassahowitzka National Wildlife Refuge along Florida's Gulf Coast. That winter, a bobcat killed two of the birds, but in April, when warm weather kicked in, the five remaining birds instinctively began to head north as a flock. Only 10 days later, they reached Wisconsin on their own, completing a journey of more than 1,200 miles.

Last fall, Operation Migration returned to the 31,000-acre Chassahowitzka refuge with a flock of 16 young whoopers following their surrogate parents. According to Sara Zimorski, aviculturist with the International Crane Foundation and part of the monitoring team for the wintering cranes, the goal is similar to the nonmigratory project – 25 breeding pairs in the wild, or about 100 to 125 adult birds. This will mean more years of ultralights leading new flocks of whoopers south.

Steve Nesbitt

Lucky, before he could fly.
Below:An adult whooping crane spreads it's wings.

N.C. Bateman

Nesbitt points out that the non-migratory flock is insurance against the multiple dangers facing migrating cranes... "All we are doing is giving the birds half a chance."

It seems inevitable that birds from the two projects will find each other. "They will bump into each other sooner or later," says Nesbitt. "Using the sandhills as a model, the migratory and the nonmigratory sandhills all blend together in the wintertime, and the behaviors separate them. We don't have any instances where a sandhill that was definitely known to be a migratory bird oversummered in Florida, or a bird that we knew to be a Florida sandhill (nonmigratory) has ever showed up as a wintering bird in Michigan or Wisconsin."

Nesbitt points out that the nonmigratory flock is insurance against the multiple dangers facing migrating cranes. Overall, the three current populations of cranes, the Texas flock and the migrating and nonmigrating flocks in Florida, are all helping to ensure the species' survival. Through the tireless efforts of many people, a precious link in the wetlands ecosystem is being restored.

"All we are doing is giving the birds half a chance," said Judith Buhrman, "and they will do the rest."

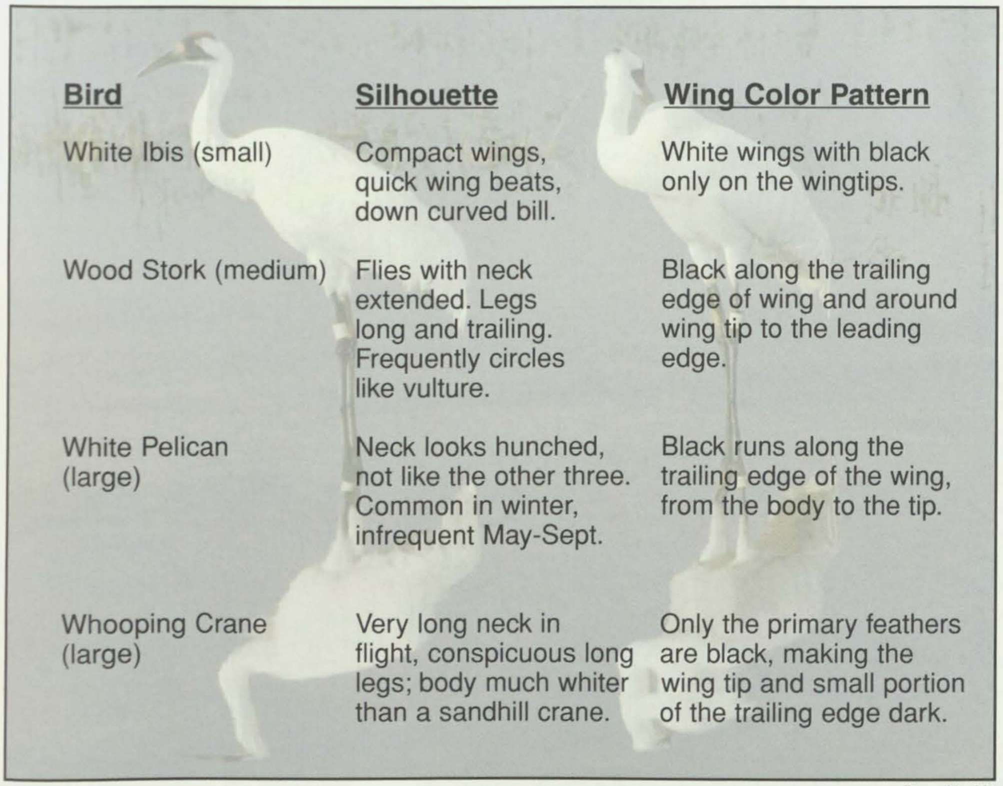
Doug Alderson is the associate editor of Florida Wildlife *magazine.*

The Great Florida Birding Trail

By Julie Brashears, FWC birding trail coordinator

As Florida's whooping crane population grows, sightings of dispersing birds are on the rise in places like Citrus, Hernando, Charlotte, Lee and Lake counties. Nevertheless, the most reliable area for finding one remains the cattle lands of Osceola County on the eastern shores of Lake Kissimmee. From St. Cloud, drive south on Canoe Creek Road (Vermont Avenue/County Road 523). Scan pastures on either side of the road, watching for flocks of foraging whooping and sandhill cranes. Joe Overstreet Road veers right, 19.3 miles south of St. Cloud, and ends at Lake Kissimmee. Pastures along the way to the lake host turkey, crested caracara, bald eagles and the occasional whooping crane. Snail kites are occasionally visible from the lakeshore.

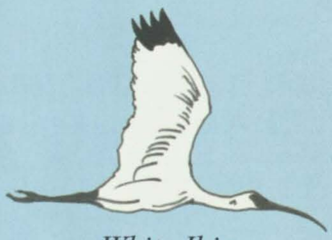
Whoopers have a distinct silhouette and color pattern, so you can easily identify them in flight. Familiarize yourself with the whooper's pattern, as well as the three birds most easily confused with them (in flight), and you'll be ready should a whooper happen to wander your way!



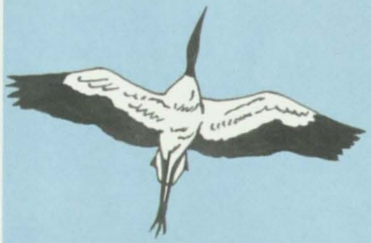
Bird	Silhouette	Wing Color Pattern
White Ibis (small)	Compact wings, quick wing beats, down curved bill.	White wings with black only on the wingtips.
Wood Stork (medium)	Flies with neck extended. Legs long and trailing. Frequently circles like vulture.	Black along the trailing edge of wing and around wing tip to the leading edge.
White Pelican (large)	Neck looks hunched, not like the other three. Common in winter, infrequent May-Sept.	Black runs along the trailing edge of the wing, from the body to the tip.
Whooping Crane (large)	Very long neck in flight, conspicuous long legs; body much whiter than a sandhill crane.	Only the primary feathers are black, making the wing tip and small portion of the trailing edge dark.

Steve Nesbitt

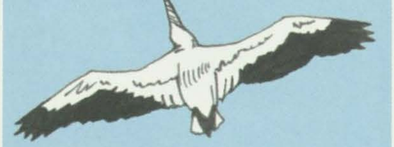
Flight Silhouettes



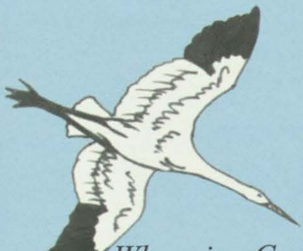
White Ibis



Wood Stork



White Pelican



Whooping Crane

Wildlife Pilot

By Stephen T. Schwikert

Wildlife survey flying can often be difficult and more dangerous than many of the other flying professions. That's just the nature of the game.

There we were flying along at 1,000 feet in a Cessna Superhawk. The broad expanse of the Florida Everglades was spread out before us like an endless sea of green and brown. I'm a wildlife technician/pilot flying for the Florida Fish and Wildlife Conservation Commission (FWC). Today, with a wildlife biologist as an observer, we are searching for wood stork, egret, heron and ibis nesting colonies. This is part of the statewide waterbird breeding survey conducted by the FWC.

It is excessively warm this day, as it is most days in south Florida. That, combined with the steady drone of the Lycoming O-320-H2AD engine, makes it hard not to drift off into that relaxed state of semi-consciousness. To counteract it, you scan the instruments more frequently than normal, re-check your location on the map, and search the sky for other traffic. Anything to fight off the dull routine associated with flying long transects dur-

Jim Rodgers

ing an aerial wildlife survey.

Suddenly, the boredom is shattered by the cry, "There's one!" Then the excitement really begins. I quickly check to see exactly where the biologist is looking. At the same instant my one hand is pulling on the carburetor heat and reducing power. My other hand is banking the plane in the direction of the sighting while applying slight back pressure to the yoke to bleed off airspeed. When the needle of the airspeed indicator hits the white arc, I drop 10 degrees of wing flaps. This will give the aircraft more stability and lower the stalling speed. That is a necessity for the type of maneuvering needed to maintain contact with the target.

The biologist calls out again, "There it is at 2 o'clock. Do you see it?" My eyes strain to pick up any sign of what has been spotted. Suddenly I focus in on a cluster of white dots scattered about an island of willow trees. "Got it," I say, as I bank a little tighter and kick in more right rudder to bring the plane around. I ease off on the back pressure now and increase the power just enough to hold the airspeed at around 60 knots. As we cruise by the waterbird colony at 300 feet, I roll the aircraft into a rather steep bank. I continue to circle the colony using just the right combination of flight controls and power. This gives the biologist the best possible view of the birds below. A count is made and the information recorded on a data sheet. I apply full power, carburetor heat off, flaps up, and enough back pressure to establish the best rate of climb. Back up at our cruising altitude we hunt for the next spot where the fun will begin all over again.

On another day I could be looking for bald eagle nests in north Florida, osprey nests around the lakes of central Florida, American crocodiles in the Florida Keys, or brown pelican nests and shorebird or waterfowl concentrations along both coasts. I've also spent countless hours searching the airwaves for the steady "beep-beep-beep" signals coming from radio telemetry transmitters. These are devices attached to individual animals which allow biologists to follow their movements. I have radio-tracked sandhill and whooping cranes, bald eagles, wood storks, black bears, Florida panthers, alligators, gopher tortoises, fox squirrels and even an indigo snake.

In more than 28 years of flying wildlife surveys, I have had the opportunity to work on many different and unique projects. I've flown over virtually every part of Florida from the Gulf of Mexico to the Atlantic Ocean and from Panama City to the Dry Tortugas. I have a treasure trove of fond memories burned into my brain.

In 1982, I spotted from above a female Florida panther walking down a levy in the Big Cypress Swamp in south Florida. She was flanked, on either side, by her twin spotted kittens. This was in the early days of the panther project when biologists weren't even sure if a breeding population existed in Florida. I've flown with a pair of bald eagles as they spun with locked talons in aerial courtship; watched as an eagle dive-bombed an osprey to get it to drop its fish; zoomed low over a marsh to get an accurate egg or chick count at a crane nest; observed the myriad of sea creatures that live in Florida's bountiful coastal waters. Most impressive of these was the gigantic leatherback turtle I once saw swimming down the intracoastal waterway, about to exit into the Atlantic Ocean at the St. Lucie inlet. There were so many incredible images that I can't begin to mention them all. ▷

Steve Nesbitt

The wildlife pilot surveys a bald eagle nest.

Page 8: Steve Schwikert attaches an aerial telemetry antenna to a Cessna 172 wing strut.

Steve Nesbitt

Flying over a flock of sandhill cranes.

But it hasn't always been blue skies and fair winds. Over the years I have had my share of close calls and uncertain moments. I've had to learn and re-learn many lessons. Some of the lessons were simple and easy to learn. Other situations were more complex and harder to learn, especially the negative effects on the performance of an aircraft due to various abnormal conditions. They include flying a heavy media crew, loaded with fuel and all their equipment, with the door removed for filming, or trying to maintain altitude during slow flight just above an eagle nest with a tail wind on a very hot afternoon.

There was the time Tommy Hines, formerly of the Florida Panther Project, and I were forced to do some fancy scud running ahead of a squall line of thunderstorms just east of the Naples Airport. We were desperately trying to make it to the Alligator Alley airstrip before the storm caught us. During my approach to land, the swirling winds – gusting and getting stronger – were now coming from my rear. That fact, combined with my slow airspeed, caused the airplane to start to settle. I added full power, but response was slow and the airplane continued downward. I made a quick glance over at Tommy who at this point was a whiter shade of pale. I turned back to look outside and saw we were quickly approaching a large dome of cypress trees and still descending. Just then I heard the voice of my father, who was my first flight instructor, ringing in my ears: "You fly the plane, don't let the plane fly you!"

With that in mind, I pushed forward on the yoke and kept the plane at a slight nose down, wings level. The natural tendency would have been to pull back and make a turn to avoid the trees. My experience told me not to attempt that as we were very close to a stall at that airspeed. Finally, after what seemed like a lifetime, we started gaining speed and with that came lift. We managed to just clear the cypress trees and circled around to make a soggy landing with lightning and thunder crashing all around us. Wildlife survey flying can often be difficult and more dangerous than many of the other flying professions. That's just the nature of the game.

There is something special and exciting about maneuvering an aircraft low and slow as part of your mission, and being able to spot wildlife in the middle of nowhere using only a compass, a map and pilotage. However, you must be willing to endure personal sacrifices with the ultimate benefit to the wildlife resource as your only reward. After graduating from Embry-Riddle Aeronautical University, I worked for a time flying with both commuter and charter aviation companies, but I finally decided that being a wildlife pilot was the type of flying I really wanted to do.

Looking back, I have had occasion to wonder if I made the right decision, especially when I think of the high salaries and magnificent equipment available with the airlines these days. Then I recall what a senior captain for Delta Airlines told me in 1986. He had logged over 30 years of flying everything from the early DC 3 to the stretch version of the DC 8. He said that his flying career had been great, but he would give anything to trade places with me. So with that, and my many fond memories, I figure I made the right choice. In a few years I will be eligible to retire from the FWC. Hopefully, I will be able to leave as an old, albeit not so bold, wildlife pilot.

The Beetle Log

Text and Photographs by May Lenzer

One autumn, a rotten limb fell from one of the live oaks in our yard and broke in two. In the ensuing rains, the logs celebrated their death by nourishing a grand display of shelf fungi, brilliant ruffles in orange, tan and cream.

I decided to let both pieces lie in their resting places and observe the slow deterioration that would return them to the earth beneath and watch the creatures feeding on the insect community these logs would support in the ever-changing labyrinth inside.

As spring slipped away to summer, I watched the fungi spread along the limbs, rejuvenating in the rains and fading into papery, lifeless-looking husks in the heat.

In early August, holes began to develop as the red-headed woodpeckers brought their two youngsters to dine on the insects that had moved in. I rolled the logs over during the first week of August. Under one of them I discovered not a common ground beetle, which I expected, but a patent leather beetle with its weak, defenseless half-inch larvae, creeping aimlessly in the rut the limb called home. The bottom of the log was softening with rot, being eaten away by moisture, termites and these beetles.

It would be interesting, I thought, to watch the progress of these young beetle grubs, surprised that one parent and sometimes two were always in attendance. So I turned to my field guides and was fascinated to find that this species fed liquefied food to their young. Taking my digital camera with me frequently, I recorded their growth.

On August 14, the larvae had grown almost to the length of the parents. They were strong, rooting around busily. Their heads were now rusty orange beads and their black eyes sharp and clear. Their plump bodies, losing the pallid opacity which formerly allowed me to see their gut, were now turning creamy, solid white. I wanted to know how they would transform themselves and was waiting eagerly for the last stage which I suspected would happen underground or in the log. Looking up the process in a book or online would taint the excitement of first-hand discovery.

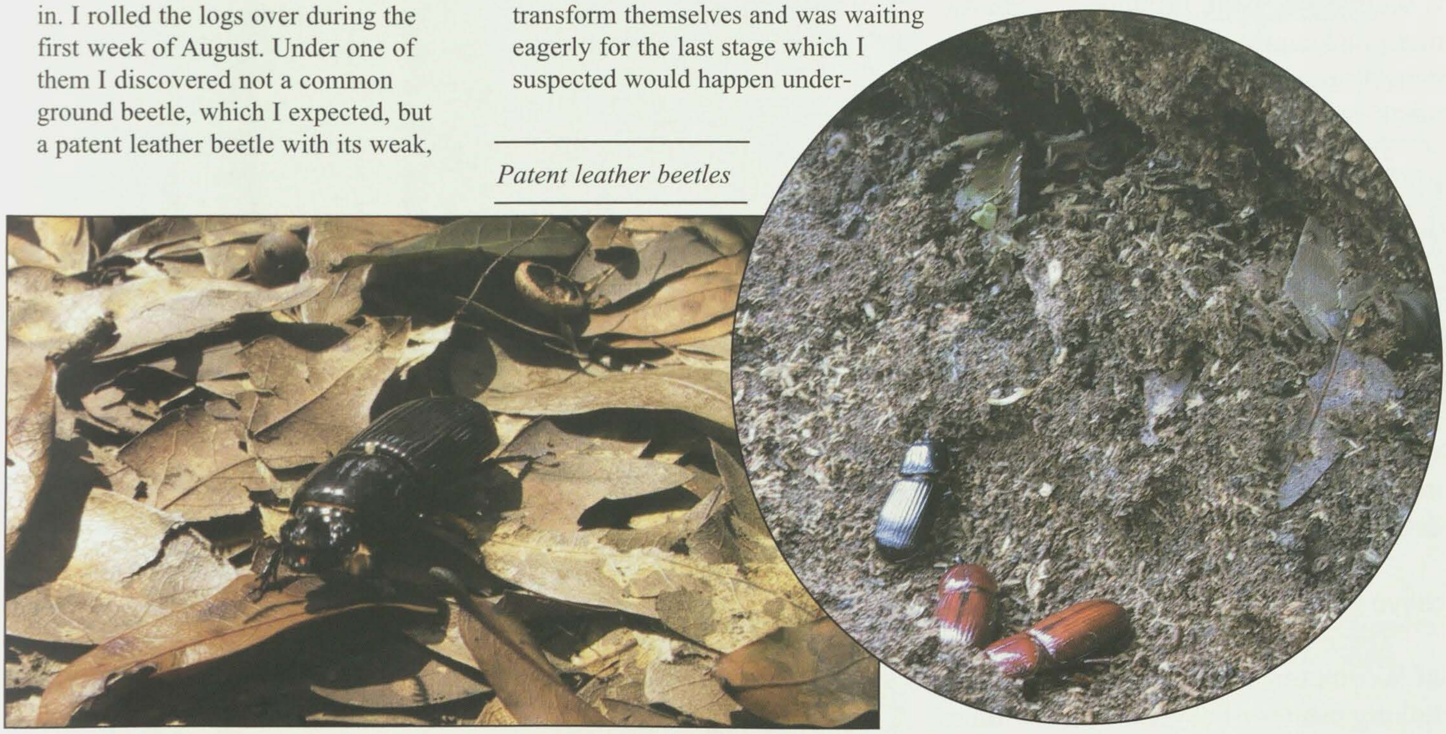
I would be patient.

The next day, I turned over the log and my little family was absent. Curious, I reasoned that they had "left the building" so to speak, to curl up somewhere and let nature take her course, the work of the parents complete.

Somewhere in the earth, their transformation took place, and when the young beetles emerged in the company of their parents, they were bright, shiny, tobacco brown. As the days passed, the color deepened until I couldn't tell them from the parents.

By mid-December, the "beetle log" had come full circle, completely disintegrating into the earth.

May Lenzer writes from Youngstown.



Patent leather beetles

The Brazen Bruin of Wellington

By James T. Huffstodt

One Boynton Beach resident actually videotaped the clever bear entering the trap in the wee hours and gorging on donuts while stretching out a back leg to catch the door if it suddenly sprung.

After romping through the deserted streets of Wellington during the wee hours, the male black bear ultimately evaded his police pursuers and found temporary refuge on a residential front porch.

That's where officers Mathew Hurst and Washburn Wear of the Florida Fish and Wildlife Conservation Commission (FWC) found him one memorable steamy south Florida night last summer. Few, if any, of the residents of this affluent and densely populated suburb were aware of their unusual visitor: the first black bear spotted in Palm Beach County in more than 25 years.

The FWC officers had arrived about an hour earlier after a request for assistance from Palm Beach County Sheriff's Office (PBCSO) deputies.

This donut-devouring bear had already led wildlife officials and local police on a merry chase for nearly 10 days. He first appeared in the western suburbs of Boynton Beach, about 12 miles southeast of Wellington. Repeated efforts to trap the roaming bear with a culvert trap baited with donuts had failed. One Boynton Beach resident actually videotaped the clever bear entering the trap in the wee hours and gorging on donuts while stretching out a back leg to catch the door if it suddenly sprung.

"Black bears are very intelligent and learn from experience," said Steve Coughlin, an FWC wildlife biologist based in West Palm Beach.

The nuisance bear moved steadily northwest into the horse country of Wellington. This semi-rural area consists of extensive riding trails linking estates of several acres or more.

One resident turned on her yard lights at 4 a.m. and briefly thought the biggest raccoon she had ever seen was prowling the shadowy pasture.

On the next night, the ursine intruder killed several of the neighbor's chickens and damaged a tool shed. That's when wildlife experts decided to try a differently designed culvert trap stored in Naples. But events took a new turn.

The night before the Naples trap arrived, the bear casually ambled into the heart of Wellington. His appearance around 10:30 p.m. prompted a call for assistance from startled PBCSO deputies. But by the time FWC officers arrived, the ursine intruder was gone.

Less than an hour later FWC officers found the bear on the front porch. He soon abandoned the porch in lumbering flight. Hurst and others followed, yelling and waving flashlights.

Several FWC officers and a half-dozen deputies were on his heels. Finally, the bear scrambled up a pine tree and peered down on his pursuers from a sturdy branch 15 feet above the sidewalk.

FWC Lt. Charlie Dennis fired a tranquilizer dart into the bear at about 2 a.m. Fourteen minutes later, after the tranquilizer had done its work, Hurst climbed up the tree with a coiled 25-foot-long rope and secured it around the bear's upper chest.

Once the bear was gently lowered to the ground, FWC wildlife biologists Coughlin and Michael Anderson slipped a steel cable noose around its neck. The noose was attached to a three-foot-long metal catchpole.

The biologists weighed the bear at 211 pounds, checked his overall health, collected hair for DNA analysis, drew blood, stapled a plastic identification disc to one ear, and tattooed the I.D. number on the bear's inside lip.

Around 3 a.m., they loaded their prize into the culvert trap and lifted it onto the bed of a pickup.

The bear was taken to the Okaloacoochee Wildlife Management Area, a 35,000-acre wilderness spread through portions of Collier and Hendry counties, a few miles south of LaBelle. This is considered to be excellent black bear habitat.

At about 8 a.m., Coughlin and wildlife biologist Joe Bozzo released the celebrity bear from the trap and watched him disappear into this pristine tangle of extensive pine flatwoods, cypress heads and shallow slough.

Whether the 2-year-old young adult bear had originally gotten off track due to high water levels, or whether he was simply the first of many nuisance bears to come in Palm Beach County, the FWC is attempting to get a better handle on the state's black bear population. Biologists recently began a long-term effort to collect DNA from individual bears using "hair snare" traps. A strip of barbed wire on the baited snare provides researchers hair samples containing the crucial DNA.

The hair sample will add to the growing DNA database. Coughlin said the FWC would eventually be able to make an accurate determination of black bear numbers and distribution using this database.

Black bears are native to Florida and were once found in all 67 counties. Today, they are concentrated in the Big Cypress Preserve east of Naples, in the Ocala National Forest, along the Georgia border in the Osceola National Forest, in the Apalachicola National Forest southwest of Tallahassee and in the vast Eglin Air Force Base near Pensacola.

Coughlin said black bears primarily eat plants and vegetable matter, which comprise 80 percent of their diet. Bears commonly rip open rotting logs in the forest, consuming the exposed grubs and worms. Occasionally bears will prey on small wild animals such as raccoons, domestic poultry or livestock.

Adult male Florida black bears average around 300 pounds, Coughlin said. Adult females are smaller, averaging around 200 pounds. The record Florida black bear, weighing 624 pounds, was killed in 1989 after being struck by a vehicle near Naples.

Nuisance black bear problems are usually triggered by humans who fail to secure garbage containers, leave pet food outside, leave grease-covered barbecue grills outside, place bird feeders in the yard or – in some cases – deliberately feed the bears.

Feeding black bears, alligators, sandhill cranes or raccoons is against the law, Coughlin said. Violators can be charged with a second-degree misdemeanor punishable by up to 60 days in jail and/or up to a $500 fine.

Coughlin said there is no record of black bears attacking or killing people in Florida. However, black bears – on rare occasions – have killed humans in other states, he added.

The FWC advises the public to exercise caution when in the presence of these large, powerful wild animals.

James T. Huffstodt is the FWC public information coordinator for the South Region, West Palm Beach.

black bear by Barry Mansell

Econfina Creek

Panhandle Jewel

By Doug Alderson

Two deer crashed into the woods before me, seeming to mark my entrance to Econfina Creek.

I heard the remote Panhandle stream before I saw it. Numerous rapids and hairpin turns mark this upper section, making it louder than most Florida rivers. For a canoeist or kayaker, paddling the Econfina is a roller coaster ride. The river races through a clay and limestone maze it has carved over time, one it can't seem to fight its way out of. But I came to hike part of a 22-mile section of the Florida Trail. On shore, there was a calmer feeling, one of enchantment.

Walking along the copper-colored stream, I was awed by giant beech and magnolia trees. There were also spruce pine, red oak and white oak, hickory and the twisted reddish trunks of sparkleberry.

Frequently pausing, I was fascinated by numerous swirls and eddies created by the current. The river's sweet song alternately faded or grew louder depending on the shape and width of a particular section. The banks became higher and steeper. They were often festooned with bright green moss and cascades of ferns. Tiny side streams also made music as they dropped into the main river channel. Some formed exquisite waterfalls.

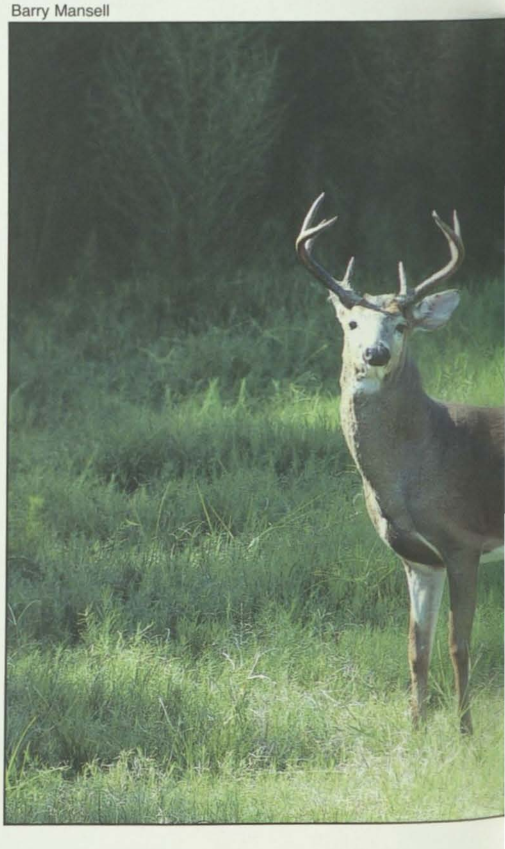
I passed more giant beech trees; carved initials were refreshingly absent. It was as wild and remote a hiking trail as one could find in Florida, and I was heartened by the fact that most of the surrounding land will remain undeveloped as part of the Econfina Creek Water Management Area.

George Fisher, a 22-year veteran and senior planner with the Northwest Florida Water Management District (NWFWMD), has been working on protecting the Econfina since the first parcels were purchased for preservation in the early 1990s. "We've been buying this land undeveloped, because in its natural state, it protects water resources better than anything else you can do," he said. "We now own almost the entire creek run from top to bottom."

Impetus for the strong preservation measures is basic: the Econfina provides the lion's share of water to Deer Point Lake, primary drinking water source for Panama City.

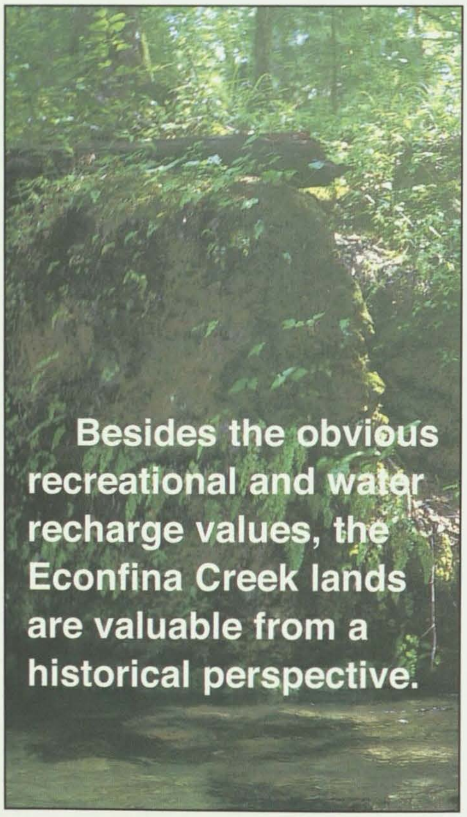
The district has also purchased 28,000 acres of sand hills west of the river, because hydrologic testing proved it was a major recharge area for several springs that feed into the river. Most of the land was purchased from the Hunt Petroleum/Rosewood Timber Company of Houston for $800 an acre. "That's a good price," said Fisher, "but our cost of restoring the uplands will be pretty heavy because they had been through a couple of timber cycles of sand pines; native

Barry Mansell



The upper part of Econfina Creek is marked by rapids and hairpin turns.
Below: White-tailed deer. Hunting opportunities include a large area for disabled hunters.

Doug Alderson



Besides the obvious recreational and water recharge values, the Econfina Creek lands are valuable from a historical perspective.

vegetation is pretty much destroyed. Trying to reestablish it is really a job."

Most of the upland tracts are being planted in native longleaf pine and wiregrass. "We're probably planting more wiregrass than anybody in the state," added Fisher. "We're really pouring it in because we know we have to manage these lands with fire." Wiregrass, a tall bunch grass that resembles baling wire, helps to spread fire quickly and efficiently.

At least 18 rare or endangered plant species inhabit the sand hills.

The district's most recent purchase is the 1,034-acre Hobbs Pasture on the north shore of Deer Point Lake. The district paid the St. Joe Company a hefty $3.64 million for the property, mainly because of its upland character, its high development potential and the fact that it contains mature timber.

The tract will soon be added to a 5,000-acre disabled hunting area. A qualified disabled person, after receiving a permit for one of the weekend hunts, can ▷

Doug Alderson

Canoeing to clear springs along the river is a popular summer pastime.

hunt with an able-bodied hunter for deer or turkey. During past hunts, the success rate was close to 50 percent for a weekend. The district also has established a campground for disabled hunters.

"This area is perfect for what we're trying to do," said David Jones, president of the Florida Disabled Outdoors Association. "The land had been controlled by a hunt club, so it wasn't overused. It has a good road system, so a mobility-impaired hunter can get around easily, and it's such a beautiful area that it's fun to go there regardless of taking game." Jones emphasized that the camping and socializing has become an important part of the hunts. "It's like a reunion," he says. "Some only see each other once a year at a hunt, and there are some new people every year."

In other parts of the Econfina Water Management Area, hunting opportunities range from dog hunting to still hunting to archery. For the upcoming hunting seasons, the entire water management area will be converted to a Type I classification, meaning the Florida Fish and Wildlife Conservation Commission (FWC) will have complete authority for issuing permits and establishing quotas.

Besides the obvious recreational and water recharge values, the Econfina Creek lands are valuable from a historical perspective. Early Native Americans lived there for millennia, from paleo Indians to Muskogee Creek bands, and early pioneers established a wagon trail through the hilly creek land, country that one early observer called "the mountains of Florida."

Perhaps the best known early pioneer was Walter Gainer. He settled along the emerald springs in 1824 near present-day Highway 20. Gainer had been a scout and engineer for Andrew Jackson during his invasion of West Florida in 1818 and liked what he saw during the incursion. "This is a beautiful and productive place with great potential," he wrote to relatives in North Carolina soon after settling. "Tell our relatives and any close friends about it, but no one else." Gainer established a thriving plantation along the creek, raising cotton, cattle and other farm products.

Eventually, large moonshine stills were in operation along the Econfina and Deer Point Lake, a trade that was passed down from generation to generation. As late as 1959, the average moonshiner was believed to be producing 60 barrels a week.

For Martha Barnes, 65, family history is one reason she was drawn to live near the Econfina for the past 15 years. "I've been coming here since I was a kid," she said. "We used to play Tarzan and swing off the vines. There was no Highway 20 then; we used to come up on dirt roads. I bring my grandkids here now. I love the fact that it will remain wild and undeveloped." According to Barnes, some of her ancestors originally settled along the creek; a few are buried in nearby cemeteries. "I have ties with the creek," she said.

Debbie Gay is owner of the Econfina Creek Canoe Livery, Inc., just above Highway 20. Her family moved to the area in 1978. "The recreational aspect is growing," she said. "The water management district is doing a good job of making areas accessible." Gay offers two forms of canoe trips. The middle and lower rivers are dubbed "go with the flow" trips, meaning that they are easy and fun, with lots of swimming stops in clear springs. The upper river, however, is a "working trip." "It will take you 10 to 12 hours to complete it," she said, "and it's only passable at certain water levels. We only offer it as an overnight trip. The first time I went down, I couldn't believe the high banks and S curves."

High or low water, I'll keep coming back to Econfina Creek for hiking. The scenic views of the swift stream linger in my mind, along with those huge shoreline trees. I yearn to hear its song again.

The Blackwater River

Pride of the Panhandle

By M. K. Buhler

With water tinted to a rich bronze tea from tannic acid, the Blackwater River gently slopes 58 miles to the Gulf of Mexico through Alabama's Conecuh and Florida's Blackwater River state forests. Lofty conifers tower over a vast carpet of bracken fern that proliferates after burn-offs. Hunters seek abundant white-tailed deer, turkey and quail during the cool months. For the nature-lover, carnivorous pitcher plants, sundews, bladderworts and butterworts can be found in bogs along an eight-mile self-guided auto tour that passes a colony of federally endangered red-cockaded woodpeckers.

Near the Alabama border, the Blackwater's current is narrow; it meanders under piles of fallen trees washed along by spring rains. Canoeists may need to portage around obstructions on six- to eight-foot high wooded banks through saw palmetto, wild blueberry and wax myrtle. Below the Kennedy Bridge in the upper part of the Blackwater River State Forest, the river is generally free of obstructions and recommended for beginners and fans of flatwater paddling. Several outfitters deliver paddlers and boats to put-ins and collect them from take-outs along the 31-mile Florida canoe trail. The river flows at an average speed of one to two knots beneath cypress giants and past forests of oak, sweetgum, dogwood, longleaf pine and wild azalea.

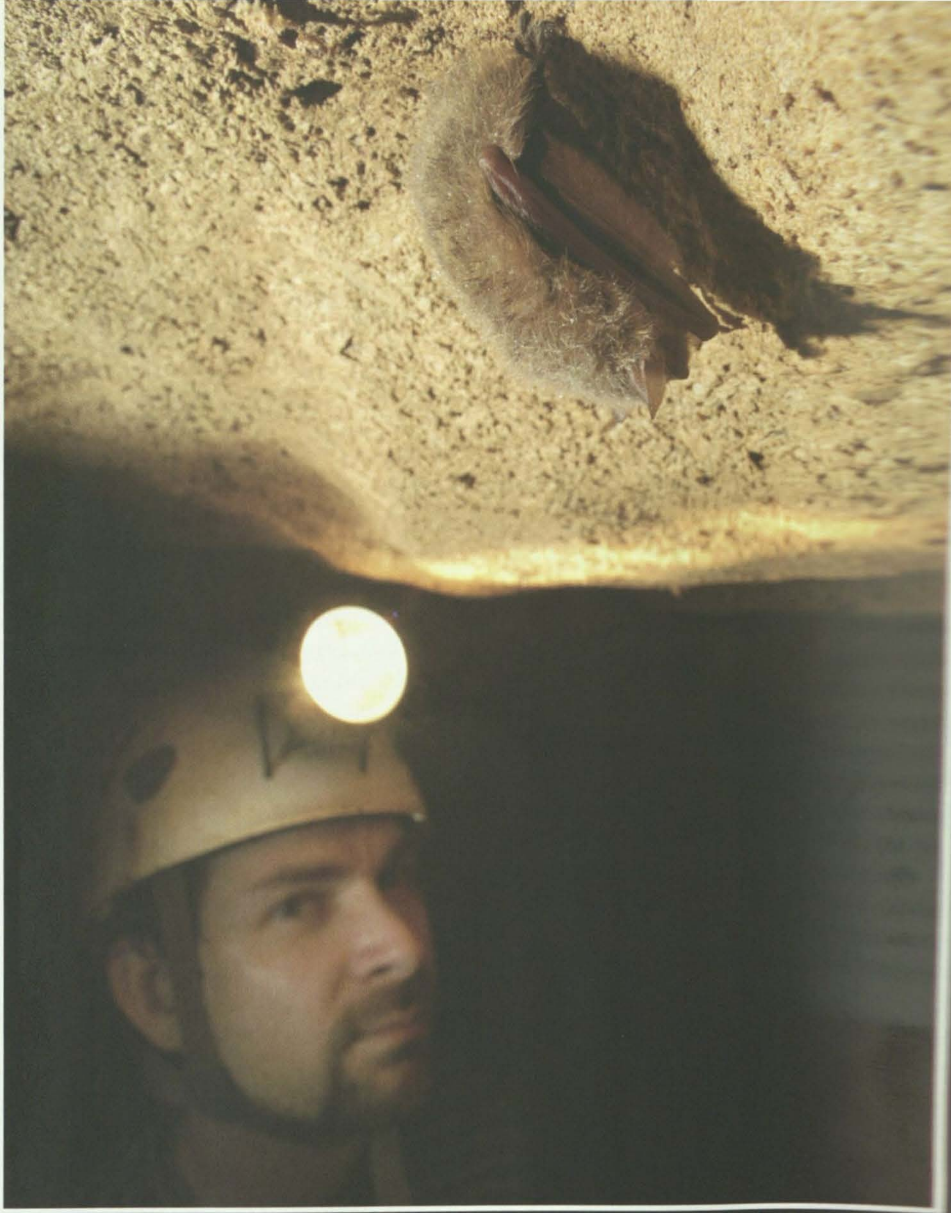
The last two miles of the canoe trail are through the scenic Blackwater River State Park, which offers a campground, picnic shelters and a nature trail. Here, the river spreads out to more than 50 feet wide in places, flowing over and around bleached-white sand shoals. The water often appears clearer as the sand filters out suspended organic matter. Swimming and tubing are also popular. From the state park to the Gulf, 13 miles of wide river, canoeing is not advised due to an area of sedimentation that obstructs traffic before Milton.

The Blackwater Fisheries Research and Development Center, operated by the Florida Fish and Wildlife Conservation Commission, stocks Panhandle rivers and does ongoing fisheries research to improve production. Early in the 1900s, the Blackwater's striped bass were almost wiped out due to pollution in Pensacola Bay. Since 1987, with improvements in water quality, the center has restocked striped bass in the river and a thriving sports fishery has developed.

The future of the Blackwater River looks promising. With little change expected to the miles of wild public land that it traverses, the river should enjoy a clean bill of health for years to come.

M.K. Buhler is a free-lance writer from St. Petersburg.

Blackwater River by Doug Alderson



Paul Aughey views an eastern pipistrelle bat, by Bruce Brewer

BATS

Nature's Pest Controller

By James Callendar

> **The eastern red bat, Seminole bat and northern yellow bat, three species commonly found in Florida, can devour 3,000 mosquito-size insects each night, according to the U.S. Fish and Wildlife Service.**

When hummingbirds approach nectar feeders, when butterflies brighten a backyard, when twilight stretches into evening, people stop and admire the beauty of nature. But when bats emerge and fly across the night sky, some people have a different reaction, and it does not include an urge to commune with the natural world. It's easy to understand why people enjoy hummingbirds, butterflies and warm southern nights, but a lack of appreciation of bats is downright confusing. It is born out of ignorance and fear.

Bats are a natural pest control. They are nature's bug man, and they're good at it. They work quietly and efficiently, at night when most people are asleep. Bats have a huge appetite; they feast on thousands of flying insects each night. The eastern red bat, Seminole bat and northern yellow bat, three species commonly found in Florida, can devour 3,000 mosquito-size insects each night, according to the U.S. Fish and Wildlife Service. That's an incredible amount of bugs!

The number of insects one Gainesville colony of bats consumes each night is greater than the total human population of Florida. The 20,000 bats that live at the University of Florida Bat House have a smorgasbord of 10 to 20 million insects 365 nights a year. That is a feat that would be expensive and nearly impossible for humans to duplicate without degrading the environment.

"That's assuming that each bat consumes 500 to 1,000 of the small insects," said Bill Kern of the Institute of Food and Agricultural Science at UF.

"If we make the conservative assumption that each bat (in the Gainesville colony) eats half its body weight in insects a night, then that's 220 pounds of leafhoppers, moths, midges, winged ants, beetles, and other night-flying insects removed from our yards, gardens and farms every night. Nursing mothers eat up to 125 percent of their body weight in insects each night."

Bats provide a service that helps make a community livable. When humans play, bats sleep. When humans sleep, bats eat the kind of insects we don't like. Timid creatures, bats try to minimize contact with people. They prefer to stay in the background, out of the spotlight, so to speak.

We share Florida with 17 different species of bats. There are 13 native Florida bats patrolling the night sky and four species found so infrequently that they are considered accidental species: the little brown bat, the northern long-eared bat, the silver-haired bat and the endangered Indiana bat.

Some bat species are solitary creatures, while others enjoy being a part of a group. The individualists among the bat population enjoy living alone among leaves, palm fronds and Spanish moss. They are referred to as foliage-roosting bats.

Bats that live in groups, in caves, under bridges and other man-made structures are considered to be colony-roosting bats.

Here's a quick guide to bats that are frequently sighted in Florida.

FOLIAGE-ROOSTING BATS

The foliage-roosting bat often hangs under a large leaf or tree branch and blends in with the surroundings. Bats in this group usually have more fur than bats that live in a colony. Their hair is a bright red, frosted or tri-colored. They tend to have more than one young at a time.

A common foliage-roosting bat in north Florida is the **eastern red bat**. It is a bright orange-red and lives among forest edges and hedgerows. The red bat often hangs by one foot and looks like a leaf. It is a swift flyer and is often seen foraging around streetlights.

The **Seminole bat** is another common solitary rooster. It is found throughout the state and looks like a red bat, except it is a deeper auburn-mahogany color. The Seminole likes Spanish moss. It is usually found hanging among the moss in longleaf pines and oaks that border a clearing. Seminole bats often congregate above tree crowns when foraging.

The most common foliage-rooster in South Florida, according to the Florida Bat Center in Port Charlotte, is the **northern yellow bat**. Larger than the red

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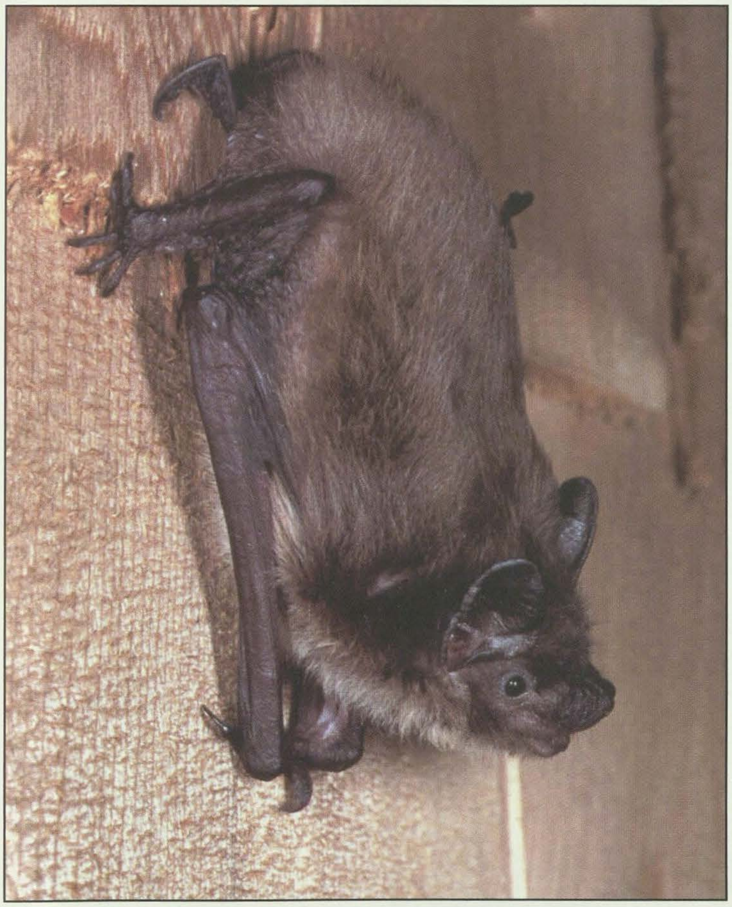
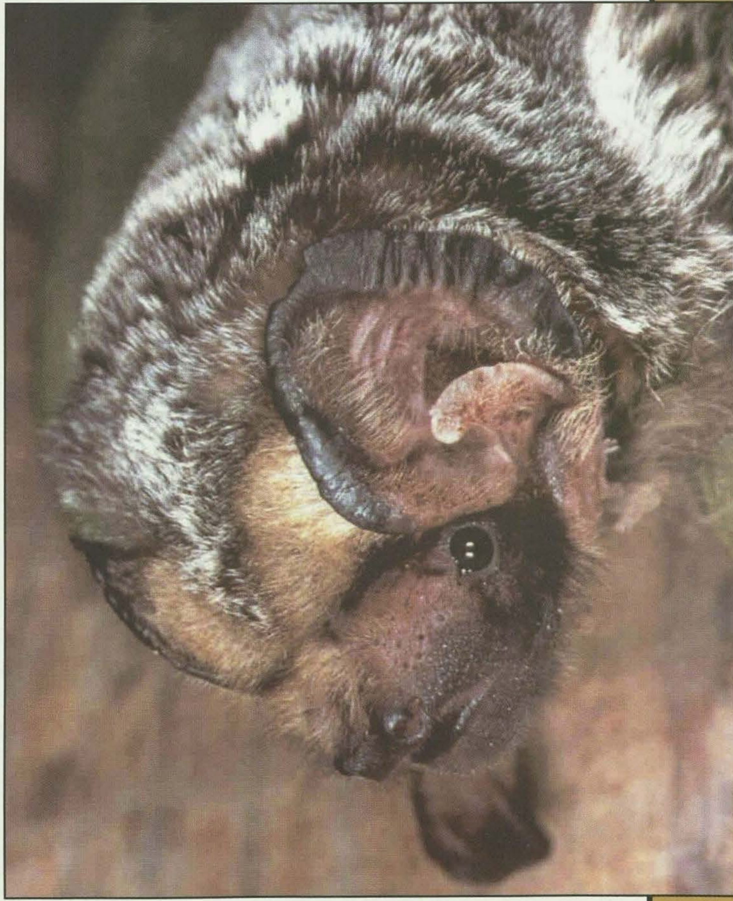


Evening bat

page 19 photos by Jerry Gingerich



Hoary bat

and Seminole, the yellow bat is yellow to dirty-blond in color and lives in semi-forested and forested areas near a water body. The yellow bat roosts not only in pine and oak trees but also in dead fronds that lay against palm trees.

The **hoary bat** is found throughout Canada and the U.S. In late summer, it begins a migration to subtropical climates; you could say that in Florida, it's a snowbird, according to Bat Conservation International, Inc. But people rarely get the chance to see the hoary bat; it is not attracted to man-made structures and stays well hidden throughout the day. It typically roosts 10 to 15 feet up in trees along forest borders. In the summer, hoary bats don't emerge to feed until after dark, but during migration, they may be seen soon after sundown. A hoary bat will make round trips of up to 24 miles on its first foraging flight of the night. It is usually easy to identify; the fur is mixed brown-gray with heavy white fringe. A hoary bat forages above treetops along streams, lakeshores and urban areas where there are numerous trees.

COLONY ROOSTERS

Bats that live in groups, the colony-roosters, tend to be darker in color, often brown with no fur on the wing and tail. These bats colonize tree hollows, caves and the underside of bridges. Although caves are usually thought of as a place where bats choose to live, just three Florida species will set up home in a cave.

The endangered **gray bat** lives in caves year-round. Found mostly in North Florida's Jackson County, the gray bat searches for food along riverbanks and lakeshores.

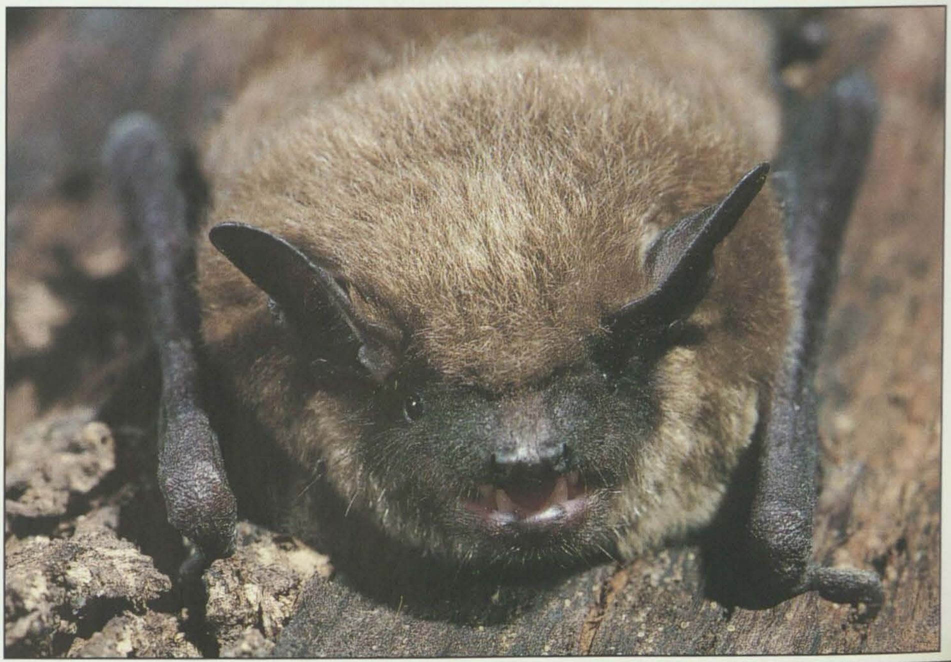
Another cave dweller is the **southeastern bat**. Florida has the world's highest concentration of this protected species. The southeastern is found in the northern half of the state. If a cave is not available, it will colonize buildings, culverts, bridges and old mines. Maternity colonies tend to be located above water within caves. A late feeder, the southeastern will cruise river and lake surfaces to catch insects.

The third cave rooster to call Florida home is the **eastern pipistrelle**. The pipistrelle is generally a yellowish-brown color, the belly being a lighter shade. The fur is actually tri-colored. Each hair has a dark brown base, a lighter middle and a dark tip. Although solitary in nature, the pipistrelle forms small maternity colonies of about 20 individuals. The pipistrelle will use caves as a winter roost. In summer months, they can be found roosting in trees, the underside of shingles, bridges and in Spanish moss. They are early feeders. A small animal, ranging in length from 2.8 to 3.7 inches, and a slow flyer with an erratic flight pattern, they are sometime mistaken for moths.

The **big brown bat** occurs in the northern two-thirds of the state. They tend to congregate in farmlands, parks and forests. They like bridges, tree hollows, attics, barns and most man-made structures; they are quite adaptable. An early feeder, the brown bat begins devouring insects from 20 minutes to one hour after sunset.

The **Rafineque's big-eared bat** is never mistaken for any other bat. Its ears are more than an inch long. This bat prefers pine flatwoods and hardwood hammocks and roosts in hollow trees and

page 20 photos by Barry Mansell



man-made structures. Sometimes the big-eared bat will establish a colony near those of eastern pipistrelles and southeastern bats. Although it is a slow flyer, the big-eared has excellent maneuvering skills and hovers close enough to trees and plants to pick off insects on leaves.

The **evening bat** is found throughout the state. It is a small animal that especially likes to live in cypress trees. The evening bat is quite adaptable and makes use of man-made structures near woodlands and open areas.

Besides grouping bats according to roosting habits, a second way to distinguish bats is by their tails. Some bats have a tail that extends out from the tail membrane; these bats are called free-tailed bats. There are three species that occur in Florida.

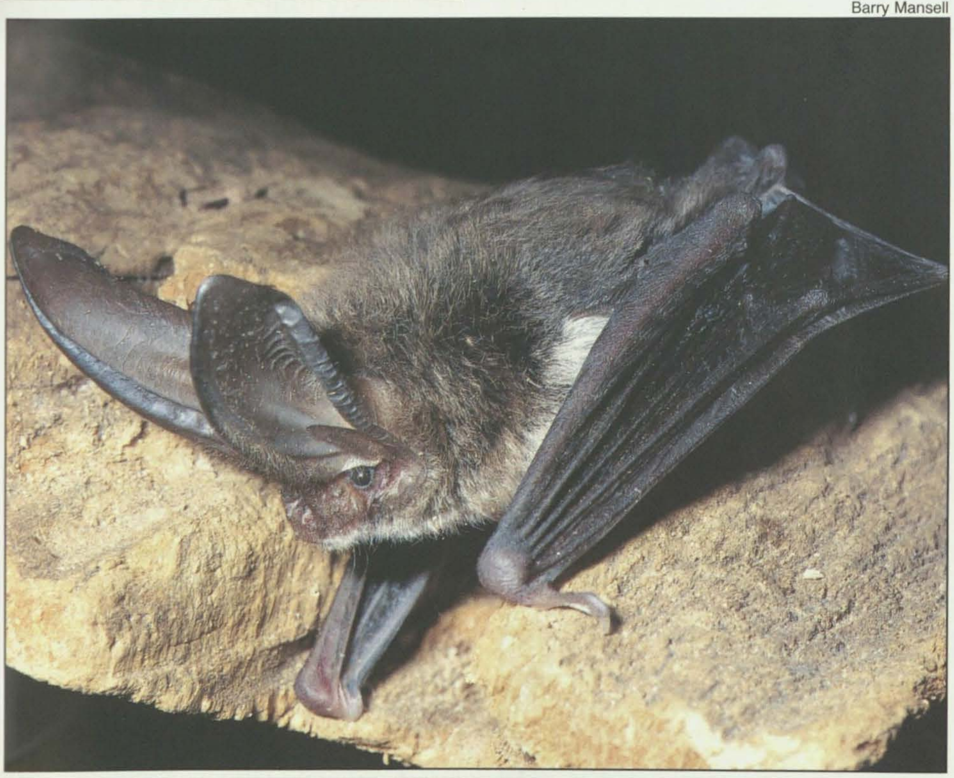
The **Pallas' mastiff bat** lives in the Keys and has fur in variable shades of brown, often toffee-brown. This bat has relatively small, pointed ears. The Pallas' mastiff bat is found in bridges, tree hollows, crevices in rocks, palm fronds, caves and tunnels, but are mostly associated with buildings and other man-made structures. It forages nears streams and man-made ponds in forested areas, and in moist tropical evergreen forests. Females form nursery colonies, and pregnant females normally give birth to one offspring in the summer. Mothers leave pups behind in clusters when they go to forage. This bat is also known as the velvety free-tailed bat or the Cuban house bat.

The **Wagner's mastiff bat** is Florida's largest and is found in the southeastern section of the state. It has dark gray, nearly black glossy fur. Its tail is free of the interfemoral membrane for half of its length. These bats have a loud piercing call that is easily picked up by human ears. They are found beneath barrel-tile roofs, tree hollows and royal palm trees. The Wagner can take flight from horizontal surfaces, a rare feat among bats. The Wagner is found only in Florida and is sometimes called the Florida mastiff bat. This bat is protected in Florida and classified as a species of special concern. If a colony is found, please contact the nearest regional office of the Florida Fish and Wildlife Conservation Commission (see the inside back cover for listings).

Page 20: Eastern pipistrelle, top left; Northern yellow bat, top right; big brown bat, bottom.

Below: Rafinesque's big-eared bat.

Barry Mansell



The most abundant bat in Florida is the **Brazilian free-tailed bat**. Found throughout the state, the roosting preference for this animal includes barrel-tile roofs, tree hollows and man-made structures. The Brazilian is active all night and can forage up to 150 miles. It is commonly found roosting along with evening bats.

BAT MYTHS

Folk tales and movies have created many misconceptions about bats. Many people fear them and are unaware that these flying mammals are quite useful. Here are a few of the myths we would like to dispel.

Bats are not blind. They enjoy the same senses we do: tasting, smelling, hearing, feeling and, yes, seeing.

Bats are not flying rodents. They are more closely related to primates than to rodents.

Bats do not try to fly into your hair, or build nests in people's hair. They are actually quite timid.

There are no vampire bats in the United States. They are found only in Latin America.

A BETTER BAT HOUSE

Bats provide a service and can be lured into a bat house strategically placed in the backyard. Bat Conservation International offers the following recommendations to make bat houses attractive to nature's pest controllers.

- A bat house should be at least 24 inches tall and 14 inches wide, with a $^3/_4$-inch to 1-inch wide roosting chamber.
- Cover all roosting and landing surfaces with $^1/_8$-to $^1/_4$-inch plastic mesh.
- Mount the bat house on a pole or building, but not a tree.
- Mount the bat house 12 feet above the ground.

For more information about bats on the Web: Bat Conservation International (**www.batcon.org**), Organization for Bat Conservation (**www.batconservation.org**), and the Florida Bat Center (**www.floridabats.org**).

James Callendar writes from Tallahassee.

Every Night is Halloween

By Karyn I. Tremper

We began the survey at sunset, but it wasn't until 10:30 p.m., just as we felt defeated, when the Anabat bat detector picked up the echolocation of a passing bat.

The Ten Thousand Islands off Florida's Gulf Coast is overwhelming in its size and its secrets. As one naturalist wrote: "The Ten Thousand Islands is a region of mystery and loneliness: gloomy, monotonous, weird and strange, yet possessing a decided fascination." Last year, as a Resource Management Specialist at Rookery Bay National Estuarine Research Reserve, I tried to unravel some of the secrets of the nightlife in this maze of islands and water by conducting a bat survey with the help of the Florida Bat Center.

Karyn I. Tremper

On a warm April night, we battled the mosquitoes and no-see-ums as we navigated our little boat in the dark through the water surrounding the mangrove islands. Most of our time was spent cruising along the shore of "Dismal Key." This island, with its pockets of tropical hardwood forest, had possible roosting habitat for bats. The dominant tree species found on most of the islands is red mangrove. Unlike the red mangrove trees, the hardwood species found on Dismal Key have more potential for peeling bark, hanging clumps of Spanish moss and cavities for bats to roost in during the day.

We began the survey at sunset, but it wasn't until 10:30 p.m., just as we felt defeated, when the Anabat bat detector picked up the echolocation of a passing bat. The calls were in the 10 kHz range, which could only be one bat: the endangered Wagner's, or Florida's mastiff bat! In 1978, this subspecies had all but disappeared from Florida, except around Coral Gables, which is considered one of the last remaining populations. Finding new signs of the mastiff bat in Southwest Florida was important and exciting.

Florida's mastiff bat is the largest species of bat in Florida (4.9-6.5 inches head to tail) and has many unusual characteristics. The mastiff bat's echolocation ranges from 10-15 kHz, making it just within the hearing range of humans. In comparison, Brazilian free-tailed bats echolocate at about 28 kHz. Two other unusual qualities are that it rarely flies within 10 meters of the surface, and it can take flight from horizontal surfaces.

Mating occurs during the summer, and females give birth to one young.

Barry Mansell

A Seminole bat hanging from a branch.
Page 22: Ten Thousand Islands as seen from the air.

Phil Allman

A bat in the Ten Thousand Islands photographed in flight.

... this second survey showed there was a lot of bat activity in this remote area.

They prefer to roost in cavities of old trees and the foliage of royal palms. However, in such urbanized areas as Coral Gables, they also roost under the shingles of houses with Spanish-tiled roofs, and in chimneys. We can assume that the bat recorded in the Ten Thousand Islands was using the area to feed on the rich insect life found there, but we do not know whether it roosted there during the day, or traveled from farther inland.

The Anabat detector system is one of the best ways to survey for bats in the Ten Thousand Islands. Mist nets, a common tool in bat research, would be difficult to set up over water. Other detecting devices are less precise in their species identification. The Anabat system creates sonograms, or pictures of the time frequency structure, of echolocation calls on the screen of a laptop. When bats echolocate, they emit high frequency sounds, and the sound waves strike objects in their flight path and bounce back in the form of an echo. Bats then interpret the echoes and determine the direction, distance and speed of the objects around them.

Biologists can use such characteristics as maximum and minimum frequency and the slope of the call to distinguish between bat species, just as ornithologists can tell bird species apart by their songs. Since the Anabat equipment is still relatively new, researchers are continuing to build sound libraries of sonograms to use as a reference guide.

With one successful survey under our belts, we conducted a second survey a few months later. We returned to the waters near Dismal Key, but also traveled up Blackwater River. The narrower areas of the river made perfect feeding corridors for bats. Using a spotlight, we stood at the bow of the boat, and watched the bats fly by us, back and forth along the river as the Anabat recorded their echolocation. The Anabat recorded Brazilian free-tailed bats, close relatives of the mastiff bat, and two other species not positively identified. Although no mastiff bats were recorded, this second survey showed there was a lot of bat activity in this remote area.

Bats are one of many misunderstood animals in nature. From the horror stories of Dracula to beliefs that bats are blind, biologists are fighting decades of misinformation and myths in order to help conserve these unique creatures.

Karyn Tremper is a conservation biologist who is currently working with Americorps and VISTA on an effort to restore the Sunday Creek watershed in Ohio.

Top 10 Catfish Holes

By Joe Crumpton

Where to find catfish

From the Panhandle to south Florida:

Escambia River

Species: Blue, channel and flathead catfish.

When: Big channels mid-April through June and early October into November if the water stays warm. Small catfish year-round, but expect them to bite slow when it is cold.

Where: Alabama line to the I-10 Bridge.

Choctawhatchee River

Species: Channel catfish and bullheads, and an occasional sea cat. Rumor is that the blue catfish has arrived.

When: Big channels late May through early July, and October into November if the water stays warm. Small cats year-round, but expect them to bite slow when it is cold.

Where: Alabama line south to West Bay and around the mouth of Holmes Creek and other tributaries.

Apalachicola River

Species: Channel and flathead catfish.

When: Big channels late May into early July. Flatheads pick up in April and run into summer months. Small catfish pretty much year-round, but spring through summer months are best.

Where: River from Jim Woodruff Dam south, old creek channels, Lake Seminole backwaters, and around mouths of tributaries.

SOC Clay, Inc.

Flathead catfish, caught on the St. Johns River.

Ochlockonee River

Species: Bullhead, channel, flathead and white catfish.

When: Beginning April for flatheads and mid-May into early summer for channels. Both channels and flatheads bite until the water turns cold in October or November. Small catfish bite year-round, but slow down in cold months.

Where: Riverwide, especially in the Talquin tail race area.

Suwannee/Santa Fe Rivers

Species: Bullhead, channel, white and now blue catfish.

When: Big channels late April through June. Small catfish pretty much year-round. Not sure about the blues yet, but the biggest ones so far were caught in January and February.

Where: Georgia line south to near the Gulf.

St. Johns River and Dunn's Creek

Species: Bullhead, channel and white catfish.

When: Big channels early May through June. Small catfish pretty much year-round, but best in spring and fall.

Where: Dunn's Creek to Lake Crescent, Murphy's Creek from the St. Johns to Dunn's Creek and the river from Palatka to Little Lake George. Try the hole on the North side of Buffalo Bluff Bridge, but bring plenty of hooks and weights (there are numerous snags).

Oklawaha River

Species: Bullhead, channel and white catfish.

When: Big channels May through June and in October until mid November. Small catfish year-round.

Where: Rodman Dam to the St. Johns River and the west end of Rodman Reservoir to Moss Bluff lock and dam.

Lake Rousseau

Species: Bullhead, channel and white catfish.

When: Big channels starting mid-April through June. Fall months as the water temperature starts to drop are good too. Small cats year-round.

Where: Old river and creek channels in the lake proper.

Haines Creek

Species: Bullheads, channel and white catfish.

When: Big channels mid-April through June and October and November as water temperatures begin to drop. Small cats year-round, especially where there is water flow.

Where: The creek between Lakes Eustis and Griffin, especially below the lock and dam.

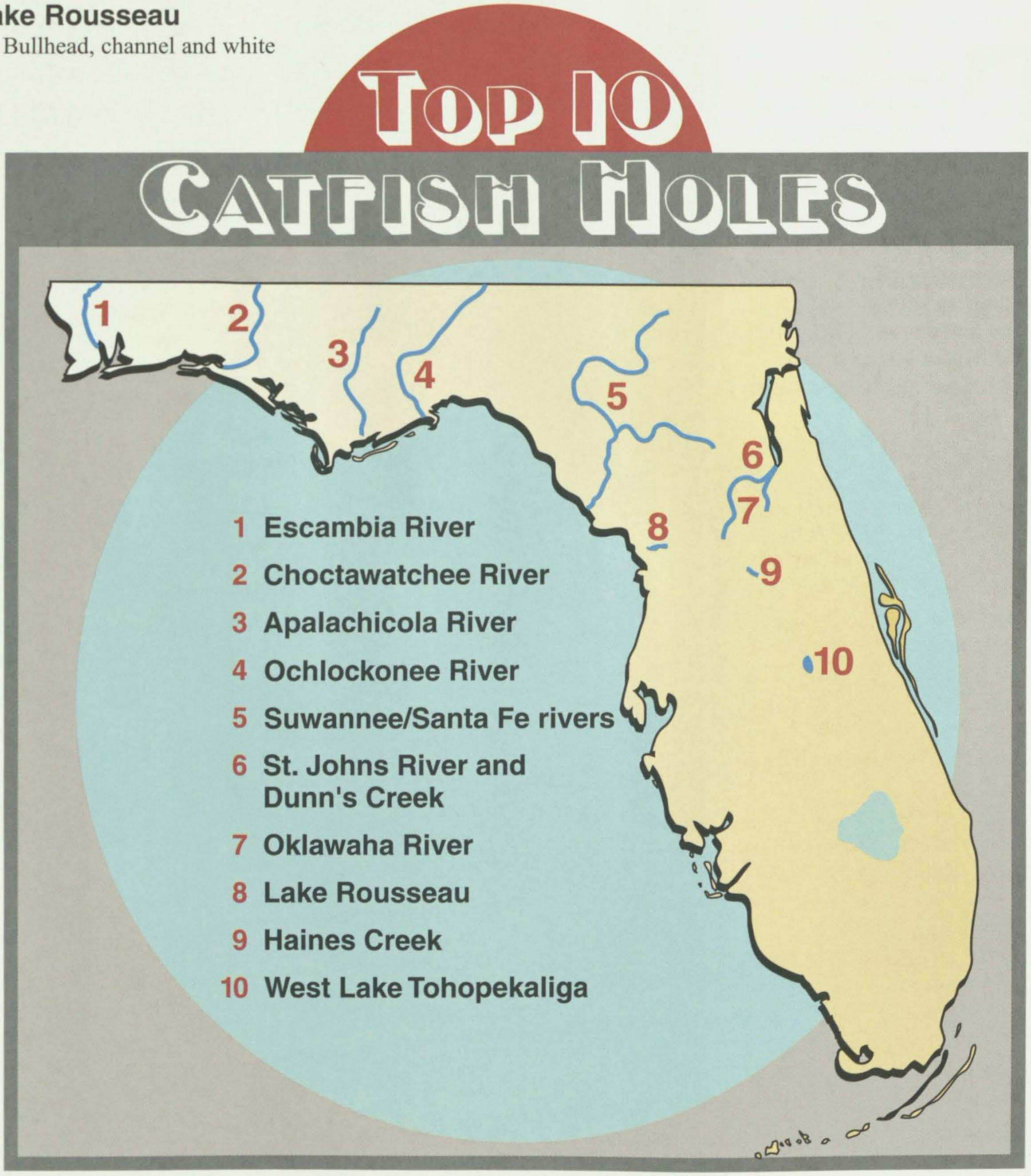
West Lake Tohopekaliga

Species: Bullhead, channel and white catfish.

When: Big channels April through June and early October into November as water temperatures drop. Small cats year-round.

Where: C-31 Canal, below the Kissimmee River structure, around mouth of and in Shingle Creek, and in the lake proper around fish attractors.

Joe Crumpton is an FWC freshwater fisheries biologist working out of Eustis.



The Burrowing Owls of Cape Coral

By Norman Bateman, with assistance from Cindi Bateman
Photographs by Norman Bateman

Those piercing yellow eyes were watching as I labored to skirt my way around a clump of tall grass. I was trying to move slowly, like the wind that was swaying the grass in amber waves. The deep golden afternoon sun was slowly receding into the western horizon, and I knew that he was hungry. I knew that he would hunt soon, and I knew that he was watching my every movement.

I tried to blend into the background as I crawled my way toward the clearing just a few yards ahead. I thought if I could reach the open area, I might get off a few clean shots. As I squirmed my way forward, I suddenly felt a sharp pain in my right knee. My thoughts were focused on my target and, not paying attention, I had blundered into a patch of sand spurs. Still, I had to go on. I had to make it to where the sun would be at my back so my shadow would be pointed straight at him.

I reached my objective just as my arms were giving out and my knee was burning in pain. I had managed to crawl the last 20 feet pushing a Canon ahead of me. That Canon was an EOS 1v HS mounted to a Canon 600mm f4.0 L lens with a 2X teleconverter atop a gimble head on my tripod lowered to almost ground level. I was well armed for any quarry. The prey was a burrowing owl. He was well concealed just outside the entrance to his burrow and blended well with the billowing grass and weeds. I now took my time. I aimed the lens at him and auto-focused on his eye at a distance of 20 feet. I was shooting the lens wide open at f8.0 with the 2x. The owl promptly yawned. His mouth was wide open as if indifferent to my stalking. I didn't care; I ripped off six or eight shots anyway!

Cape Coral is a nice little bedroom community just across the Caloosahatchee River from Fort Myers. The town is not known for heavy industry, aerospace, the arts or much else. To birders though, Cape Coral is a mecca for the burrowing owl. This owl is one of the few birds that adapt well to living alongside people. They can tolerate construction, children at play, residential streets and even some major roadways within just feet of their chosen nest sites. They dig their burrows on empty lots and sometimes into front yards. There are hundreds of nest sites within the City of Cape Coral. Even though the owl can adapt to living beside humans, they still need some space. The single biggest threat to these beautiful birds is the loss of their habitat.

The people of Cape Coral recognize that these little owls are losing their habitat to both new home and business construction. The city's Department of Community Development is actively trying to protect the nest sites. They mark each with wooden or metal stakes driven into the ground and orange tape strung between the stakes. They also post signs that say "Protected Bird Nesting Site, Area Closed." City employees who mow the grass on these vacant lots know which areas to avoid, and photographers and birders are able to easily find the burrows. Plus, you can spot these 9-inch-tall brown and white owls standing watch on their burrow mounds in nesting season. They usually seek shelter during the heat of the day and hunt both at night and during the day.

The burrowing owl carefully chooses its nest site. It must be high enough to drain the storm waters and needs to be in a fairly open field with low vegetation so there is a clear field of view to watch for predators. A drawback is that the grass on the nest site is rarely cleared when surrounded with this orange tape barrier. There is now a volunteer program in place to help clear the nest sites.

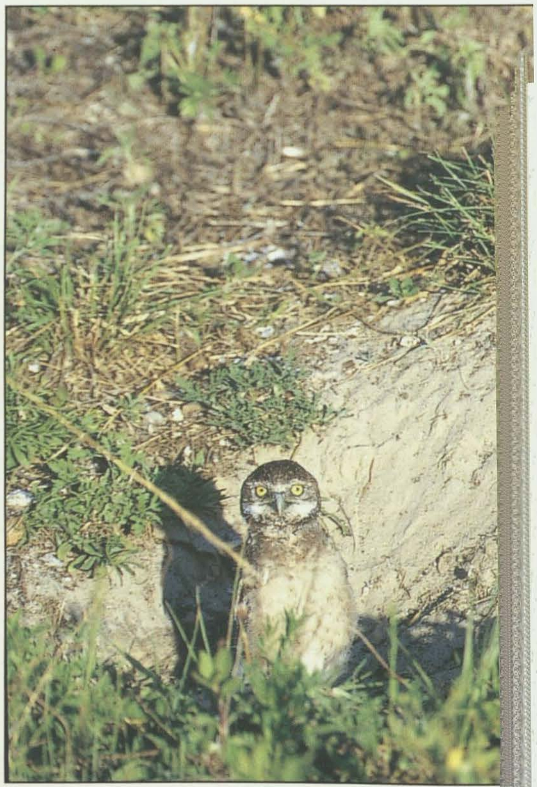
Mated burrowing owl pairs will sometimes dig several burrows in a small area. The burrowing instinct is so strong in younger owls that they have been observed digging a burrow during the mating season and spending several months defending it even without a mate. The nesting season usually runs from February through July. Occasionally, some nests lose their eggs or chicks and the adults will produce a second clutch. The average nest in Cape Coral yields three to four chicks.

At two to four weeks of age, the chicks start to get curious enough to emerge from the burrow. They are fun to watch because they are like children. They play, preen each other, fight for food that the parent brings to them, flap what wings they have and seem as curious about people as we are about them.

Most of the owls will tolerate close observation if given a little time. But they are wild animals and they have their comfort zone. When this zone is intruded upon, usually the owl will begin to bob and chirp at you. If they get too uneasy, instinct tells them to flee. Approach them slowly and quietly, and you will be amazed at how fast they learn you are not a threat and begin to pose for you. ◆

Norman and Cindi Bateman of Fort Myers are award-winning wildlife photographers.

A burrowing owl chick begs for food.



Two burrowing owlettes and a parent shown at [illegible]

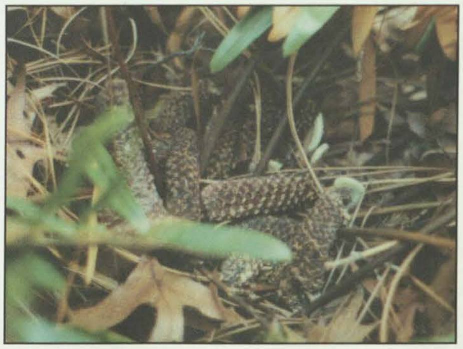
The Coontie Creeper

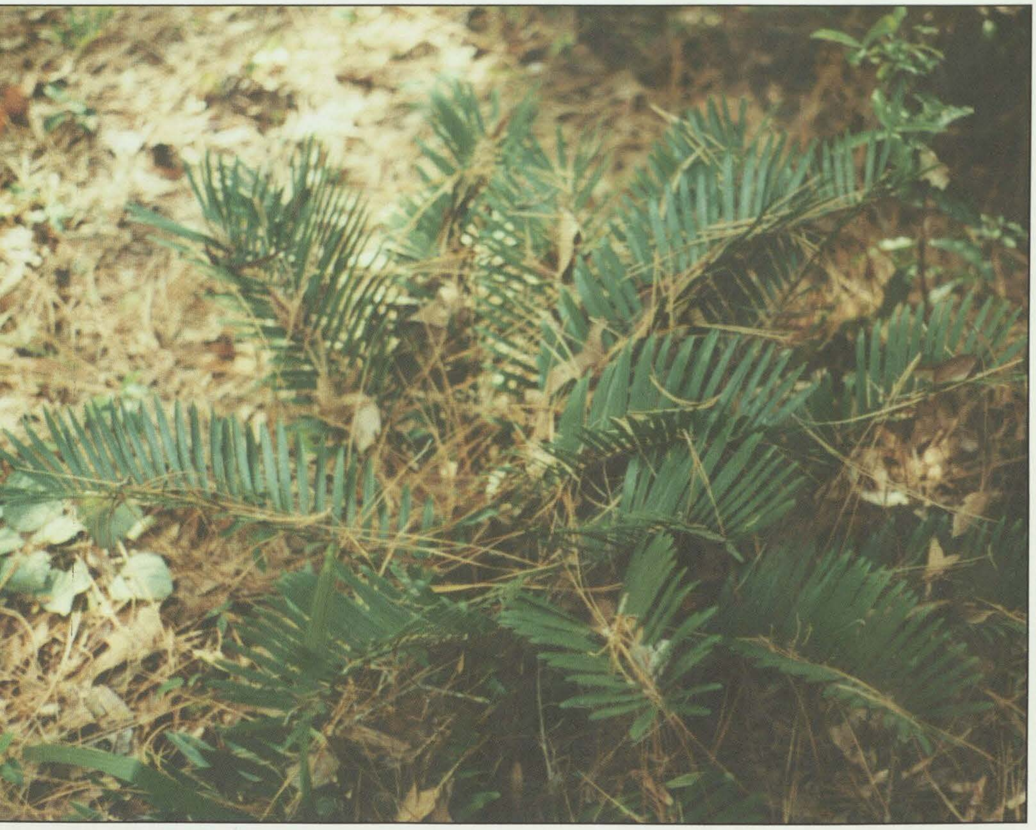
Text and photographs by Jerry G. Knox

Coontie fascinates me. It is an ancient native of the sandy spit of Florida between Gulf and Atlantic waters. Supremely adapted to survival with its corm of stored sustenance hidden beneath the sandy surface, it can tolerate fire and browsing.

Coontie looks like, and has been called, a fern, but it is a relative of pines and cedars. Both pines and cycads (which includes coontie) were around when dinosaurs bossed our tiny, furball forebearers around. Naked seeds, protected by scales and carried in a cone, are the hallmarks of the conifers.

The lustrous clumps of pinnate green feathers of coontie hide pineapple-like cones of pollen or waxy orange seeds. Flesh around the seed coats is toxic enough to do-in a squirrel or rat before the precious germ is reached. Roaches and other insects seem to be able to tolerate the toxins and they can consume the orange flesh and the peanut-size kernel within the hard seed coat. Usually, enough seeds remain untouched to sprout a host of delicate green plumes of new plants around each mother clump.





A rare coontie plant.
Top: Coontie seeds, showing the hard seed coat.

By the time a green plume appears above ground, the stored supply of nutrients is already swelling in the corm that constitutes the main body of each plant below ground. It was this plump store of starch that early Indians and European settlers pillaged for its nutritious contents. Without proper treatment to remove its poisonous alkaloids, the coontie may kill instead of sustain. The crushed pulp must be washed and fermented, then washed again to remove the soluble toxins and leave the insoluble starch. Arrowroot is a name for the dried starch after it is properly leached and purified.

Although once harvested to near depletion in the wild, coontie is, with state protection, slowly reestablishing itself. I help all I can!

Where I see an environment suited to coontie, and none are present, I have often set a handful of seeds from my home-grown reserve. The plant seems to flourish best in those harshest of Florida scrubs, the sand barrens of the coast and central ridge. At the base of longleaf and slash pines there is usually a thick layer of decomposing pine needles eight inches or more in depth. Into this acid compost pile I play squirrel and burrow a handful of seeds down to the sand beneath. It may take from four to six years to have mature seed-bearing plants, but once established, they go for the long haul.

This holdover from the ancient plant groups of the past deserves a champion to promote its future. So, if you some day see coontie in an area where there was none before, do not be too surprised. The coontie creeper may have been at work.

Jerry G. Knox, the coontie creeper, writes from Ocala.

The Eastern Glass Lizard

(*Ophisaurus ventralis*)

Text and photos by John Tyson

Florida is blessed with literally dozens of species of lizards throughout the state. Some are native and some are introduced and most are easily identified as lizards. Lizards in general are quick and agile, and have four legs. But not every lizard is a typical "leaping-lizard." There is one common lizard here in Florida, the eastern glass lizard, that is often mistaken as a snake because it has no legs. Three other glass lizards are found in Florida, but they are less common.

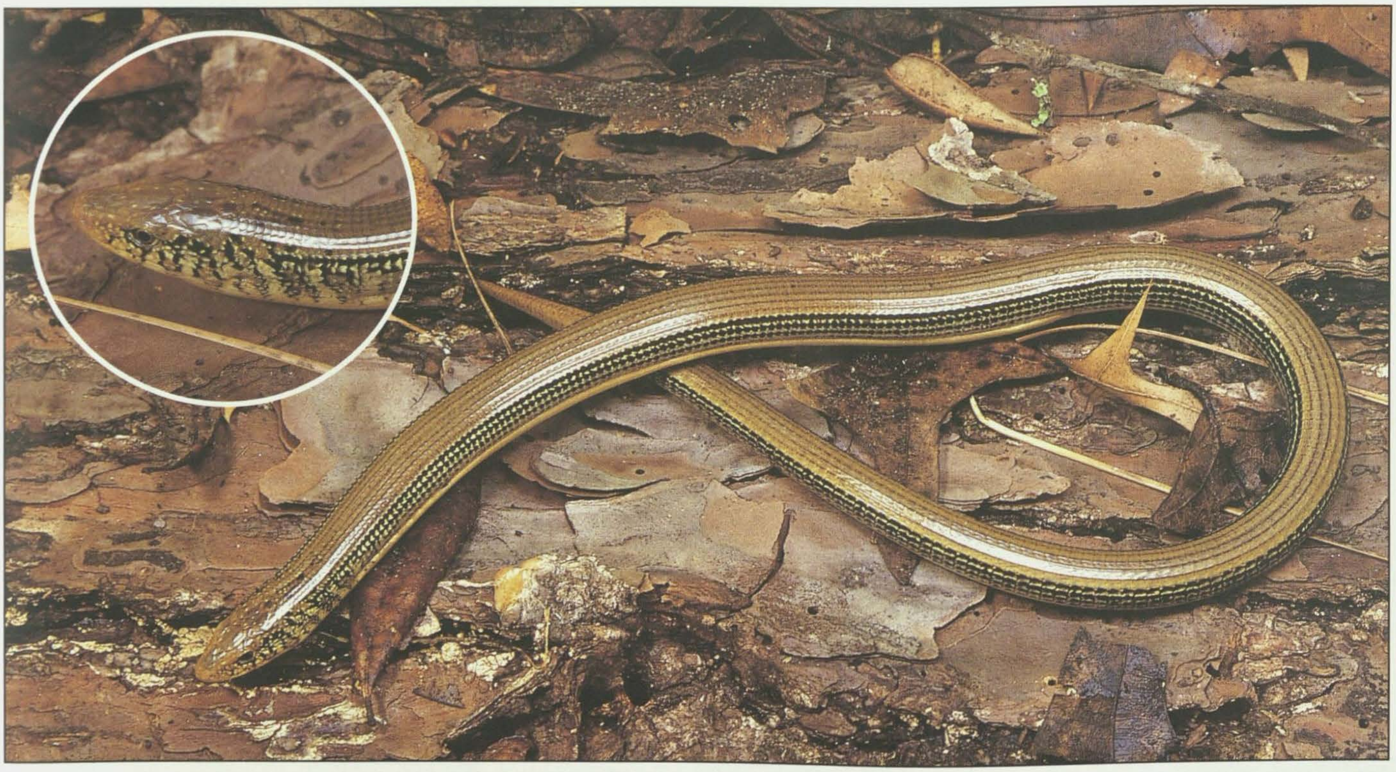
Glass lizards lack the graceful motions of a snake and even feel different to the touch. They are rather stiff compared to a snake, even with an average length of 18 to 42 inches. This stiffness is due to a tiny bone called an osteoderm that is part of every scale. Glass lizards have eyelids and external ear openings that distinguish them from snakes. In addition, their tail is easily broken off by predators, and later regrown, one reason they were called "joint snakes" in folk legends. The detached tail wriggles to attract the predator's attention, enabling the lizard to escape.

The eastern glass lizard will occupy a habitat consisting of damp grassy areas and open woodlands. They are also seen in the long grassy zones along marshes and wetlands. Many rural subdivisions with wooded lots, well-planted landscaping and grassy ground covers also provide excellent habitats for eastern glass lizards. Their smooth scales allow for burrowing and easy locomotion beneath the moist substrate. The female will lay 8 to 17 eggs in the late spring or early summer and, unlike most lizards, will stay with the clutch during incubation. Newly hatched glass lizards, however, are on their own.

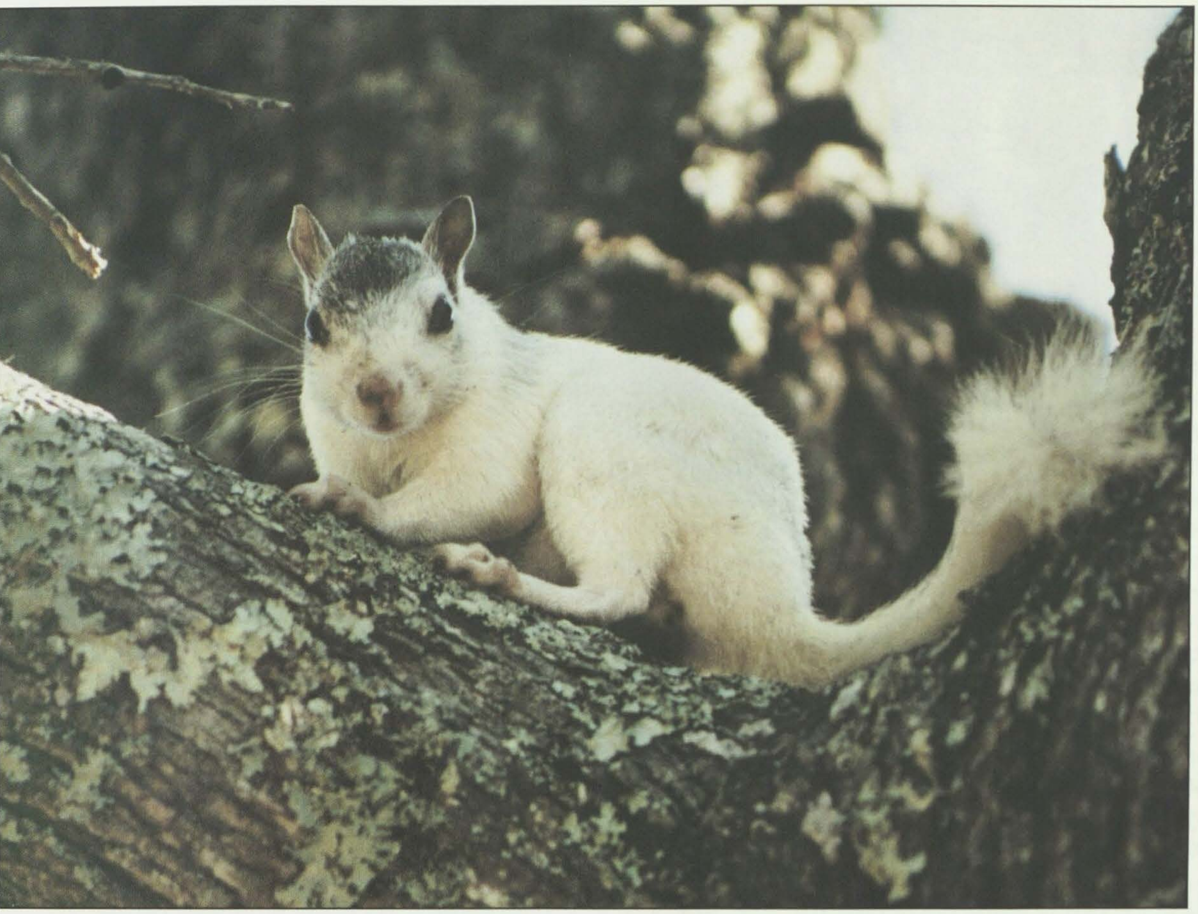
The eastern glass lizard is a diurnal animal, meaning that they are active during daytime hours. The best time to spot a glass lizard is early morning when it is actively feeding in the long moist grasses. Being carnivorous, they will generally be hunting for earthworms, grubs and insects. Glass lizards have also been known to eat smaller lizards, small snakes and even small birds and bird eggs.

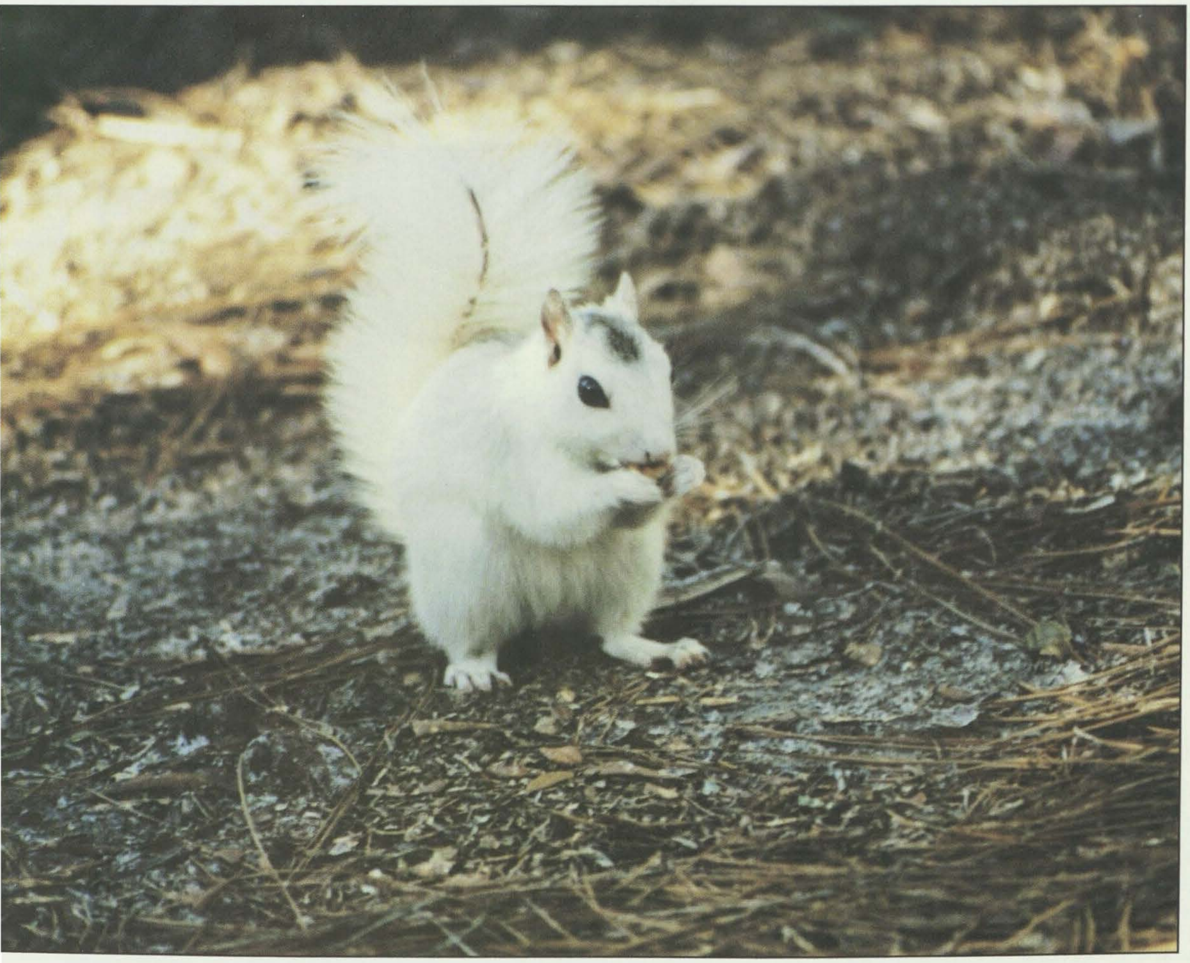
The eastern glass lizard is a truly unique creature found in Florida and very often a victim of mistaken identity. Next time someone hollers "snake," take note of where you are and take a quick glance at the slithering escape. It may just be a lizard in disguise.

John Tyson is a professional nature photographer and writer residing in Eustis.



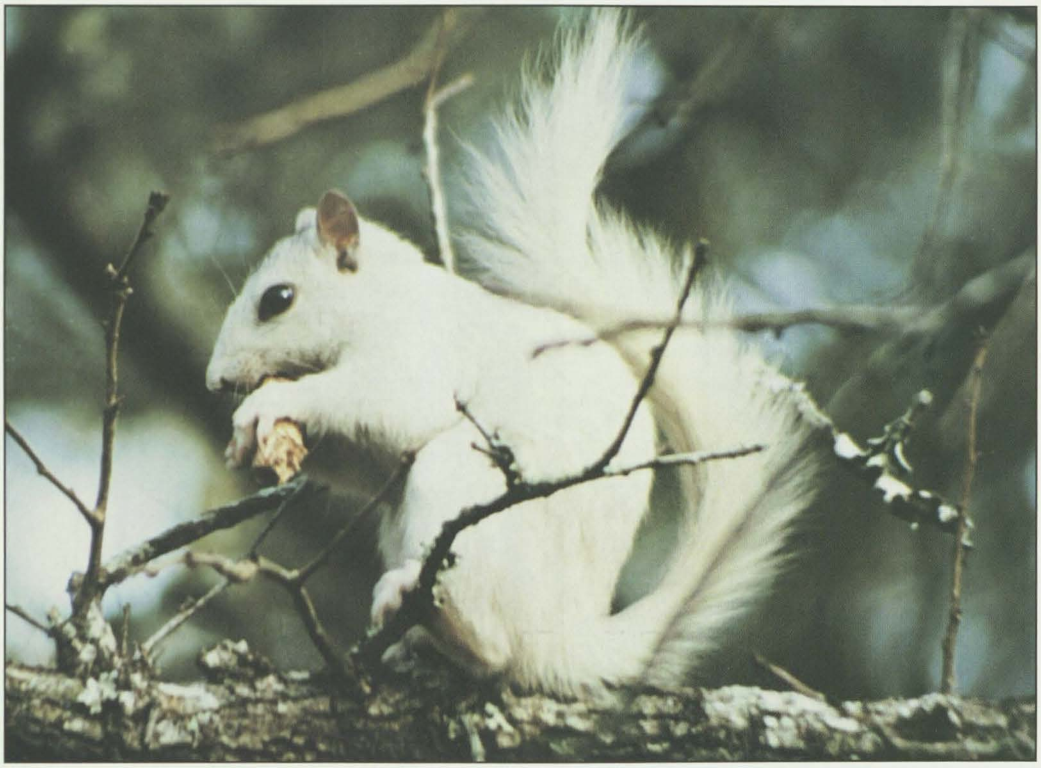
The White Squirrels





# of Ochlockonee River State Park

He was snow white with just a small patch of gray on top of his head. His eyes were as brown as my own, proving that he was not an albino, but a genetic deviation of the gray squirrel.



Text and Photographs by Sandra Muldrow

For several years my husband Philip has fished and camped during spring and fall at Ochlockonee River State Park just south of Sopchoppy. Following one of these trips, he came home and told me that he had seen white squirrels in the park. My response, of course, was that there is no such thing as a white squirrel. I thought that he must have seen an albino squirrel. But then he went on to explain to me that the park staff had verified that there is indeed a colony of approximately 35-40 white squirrels living in the park. Intrigued, I decided I would have to go camping with him next time to check out his story, and to try to take a photograph of a white squirrel.

One March, we set up camp in space number five, his favorite campsite. While Philip built a fire for cooking supper, I walked around the park looking for a white squirrel. I had no luck. The next day Philip went fishing, and I spent the entire day searching for a white squirrel. Still no luck. By now I was beginning to seriously doubt that these little creatures actually existed. As we were driving out of the park, what do you think scampered across the road and climbed up a tree right in front of us? You guessed it – a white squirrel. There was little light to even attempt a photograph, however, so we headed home.

It was several months before our schedules would allow us to return to the park. We arrived mid-afternoon, and Philip unloaded the boat and went bass fishing. I proceeded to hike down the trail that parallels the river. After hiking for about five minutes, I heard something moving in the bushes. I started walking off the trail. After only a few steps I spotted an adorable little white squirrel sitting on a branch and eating something. I was so excited and nervous that I could hardly hold my camera still. He was a very agreeable little creature and allowed me to get several shots before he went on his way. He was snow white with just a small patch of gray on top of his head. His eyes were as brown as my own, proving that he was not an albino, but a genetic deviation of the gray squirrel.

Since my first encounter with the white squirrels of Ochlockonee River State Park, I've learned that they are also found at the Tallahassee Museum; Kenton, Tennessee; Olney, Illinois; Marionville, Missouri; and Exeter, Ontario. There are many stories about how white squirrels arrived at certain locations – gypsy caravans, traveling circuses – but no one is quite sure.

Sandra Muldrow writes from Cedar Key.

Conservation Update

Compiled by Angie Raines

striped skunk

Huge Response to Skunk Survey

Kirsten Nelson, an FWC biologist conducting a survey of skunks, said public response to the skunk survey was almost overwhelming. Last October, the FWC asked residents to report any skunk sightings within the past five years, and nearly 2,000 people responded. Their information is supplemented by information from about 1,000 wildlife rehabilitators, trappers and biologists throughout the state.

The study was prompted by numerous comments from people who said they had noted a significant decline in skunk sightings during the past decade.

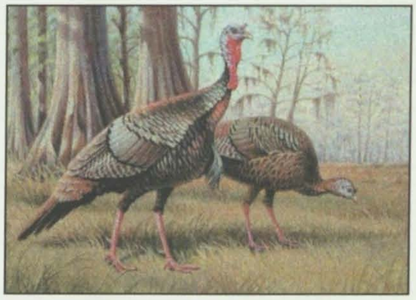
Nelson said they will use the information to determine if the decline is a reality and, if it is, attempt to determine its cause. She said preliminary analysis indicates there are more striped skunks than spotted, and more skunks were observed in northern and central Florida than in the southern portion of the state. Additional information will be available in a few months.

Blue Butterfly Count Yields Only 39

The Miami blue butterfly was once abundant in south Florida. Now, the only surviving population is in Bahia Honda State Park in the Florida Keys. At last count, officials were able to locate only 39 butterflies in the park.

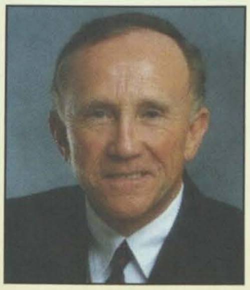
The FWC took emergency action in December to list the blue butterfly as endangered. Scientists are conducting a biological status review. The review entails an in-depth evaluation of the species' population, range and potential for extinction and evaluations of public comment on the butterfly's status and a review by a panel of experts from outside the agency.

The review process will determine the appropriate final classification for the Miami blue butterfly.



New Art for Waterfowl and Turkey Stamps

The FWC has selected artwork for the 2004 Florida waterfowl and wild turkey stamps. Paul Bridgeford of Des Moines, Iowa, won the waterfowl competition with a design for a green-winged teal. Richard Timm of DeBary won in the Florida wild turkey category with the world famous Osceola.



Richard Corbett Named FWC Commissioner

Gov. Jeb Bush appointed Richard A. "Dick" Corbett of Tampa to serve a five-year term as a commissioner at the FWC.

Corbett, 64, works as a real estate developer/investor. He is also an Eagle Scout and an avid sportsman. "I've fished and hunted since I was 8 years old in upstate New York," he said. "This has helped me develop an appreciation for our natural resources and a drive to preserve our resources for future generations to enjoy."

He received a bachelor's degree in English and history from Notre Dame in 1960 and a master's degree in business administration from Harvard Business School in 1964.

FWC Law Enforcement Officer of the Year

Officer Randy Bowlin has been selected FWC's 2002 Law Enforcement Officer of the Year. Bowlin is assigned to St. Johns County.

The 29-year-old officer lives in St. Augustine with his wife, Rachel, and their two Labrador retrievers, Raven and Riley.

Bowlin graduated from Seminole Community College and then graduated first in his class at the law enforcement training center.

"During the course of his career, Randy has proved time and again that he is truly a dedicated professional law enforcement officer. He is of unwavering high character, committed to the highest level of ethical standards, and is unquestionably the type of officer others strive to become, " said Major Andy Love, regional law enforcement commander for the FWC's Northeast Region.

Eighth-grader Wins Manatee Decal Contest

A Florida 8th-grade student created new artwork for the FWC's 2003-2004

manatee decal. Kathleen Finch, a West Palm Beach 13-year-old, created the watercolor design of a swimming mother and calf manatee and titled it "Peaceful Waters."

Kathleen was one of 79 Florida middle school art students who entered the manatee decal art contest. This is the 12th year the FWC has held an art contest, and it was open to all Florida middle school art students.

Kathleen is the daughter of Carol and Russ Cook of West Palm Beach. Mrs. Cook said her daughter probably gets her artistic talent from her grandfather, an artist who had commercial work published in *Life* magazine. Five other art students placed in the contest. They are:

Second Place: Roman Arevalo, South Miami Middle School

Third Place: Laura Patino, St. Michael Lutheran, Ft. Myers

Honorable Mention Awards: Josie-Ann Vidal, Sawgrass Springs Middle School, Coral Springs;

Dominique Pascual, South Miami Middle School;

Kelly Cannon, Sawgrass Springs Middle School, Coral Springs;

Each year manatee decals are distributed through county tax collectors' offices to individuals who donate $5 or more to the Save the Manatee Trust Fund. Money from the sale of decals supports manatee protection efforts such as rescue, rehabilitation, research and public education.

Coast Guard Issues Life Jacket Requirement

A United States Coast Guard interim rule now requires boaters under 13 years old to wear a properly fitting Coast Guard-approved life jacket in federal waters. This rule applies to children riding in a recreational vessel that is under way, unless they are in an enclosed cabin or below deck.

The rule does not supercede any state rules requiring children to wear life jackets. Its primary purpose is to provide for children's safety in states that have not addressed the issue and in waters that are not in states' jurisdiction. The rule now empowers the U.S. Coast Guard to enforce Florida's laws about wearing life vests.

Florida already had a law requiring children under 6 years old and all people using personal watercraft and water skis to wear life vests. Boaters in Florida waters will be subject to the state law. However, once boaters enter federal waters (three nautical miles offshore in the Atlantic and nine nautical miles in the Gulf), they must comply with the Coast Guard rule.

Florida Fish and Wildlife Conservation Commission REGIONS

NORTHWEST
Lt. Col. Louie Roberson, director
3911 Highway 2321
Panama City, 32409
(850) 265-3676

NORTH CENTRAL
Rolando Garcia, director
Route 7, Box 440
Lake City, 32055
(386) 758-0525

NORTHEAST
Dennis David, director
1239 S.W. 10th Street
Ocala, 34474
(352) 732-1225

SOUTHWEST
Greg Holder, director
3900 Drane Field Road
Lakeland, 33811
(863) 648-3203

SOUTH
Mark Robson, director
8535 Northlake Blvd.
West Palm Beach, 33412
(561) 625-5122

TDD (850) 488-9542

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Calendar

May
First Coast Nature Festival, St. Augustine; (904) 829-1711, ext. 312

14-18
International Project WILD Coordinators' Conference, Cocoa Beach; Carrie Hamby (850) 488-4679

June
12-13
Combined Project WILD/Project WET/Project Learning Tree Workshop, Lakeland; Janice Easton (352) 846-2329

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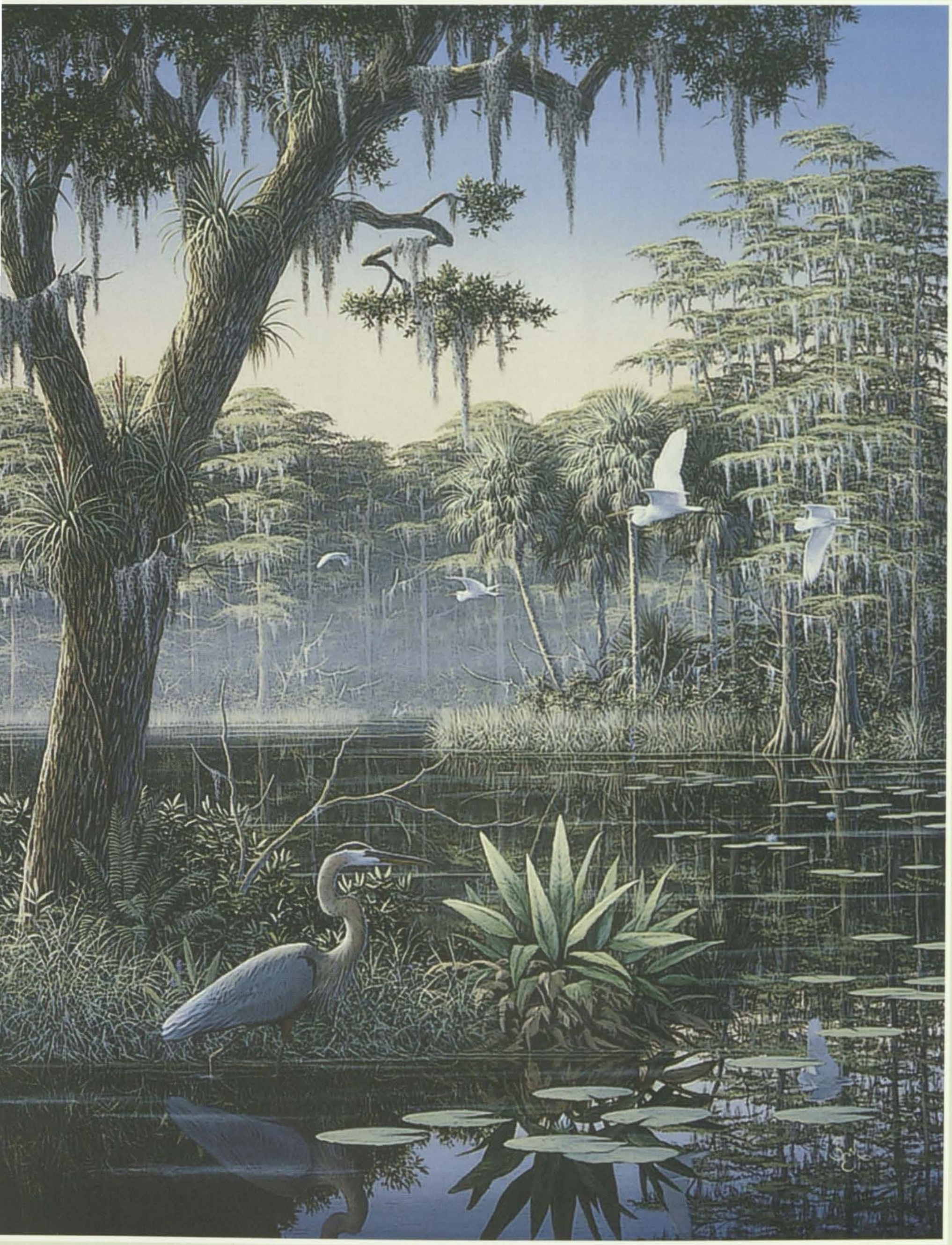
Introducing

River Run by Ben Essenburg



River Run *image size, 25 x 20 inches; sheet size, 29 x 24 inches.*

The latest Ben Essenburg wildlife print of a Florida river scene contains no less than six egrets, two otters, two white-tailed deer, one great blue heron, tri-colored heron, red-shouldered hawk, barred owl, squirrel and a raccoon.

This limited edition print is available to 750 readers of *Florida Wildlife*. You may order your signed and numbered print by sending a check to Wildlife Foundation of Florida, Inc. The cost is $80 plus $10 shipping. Florida residents please add $6 tax ($96). Mail to:

Ben Essenburg Print,
P.O. Box 11010
Tallahassee, FL 32302

A portion of the artist's revenue is donated to the Foundation for *Florida Wildlife* magazine. Other Essenburg prints available are: *Morning Motion*, *Diversion*, *Morning Snowies* and *Evening Blues*.